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ABSTRACT

This document presents the results of an evaluation of the usefulness to 14 participating schools of Connecticut's School Effectiveness Program, which focuses on the achievement performance of low-income students. The following are the evaluation's major findings, based on interviews, questionnaires, case studies, test data, and archival data: (1) changes are more likely in areas such as clear school mission and monitoring student progress, and less likely in areas addressing particular teaching techniques and other classroom practices; (2) a single school can set into motion districtwide policies and procedures for districtwide school effectiveness efforts; (3) the program's assessment and action planning procedures establish clear and valuable boundaries for the direction of school effectiveness efforts; (4) when more effective staff communication becomes a goal rather than the means to a goal, the emphasis of the school improvement efforts is compromised; (5) volunteerism is a central theme in the program, but some of the most needy schools do not volunteer; (6) the proportion of low-income students scoring below the 30th percentile decreased from 36 to 24 percent in math, from 41 to 32 percent in reading; the discrepancy between the proportion of low-income students achieving minimum proficiency and the proportion of all others achieving it narrowed from 19 to 10 percentage points in math, from 25 to 17 in reading; and (7) schools with the greatest achievement gains were the schools showing most progress in the school effectiveness program. Recommendations include calls for ongoing technical assistance to teachers and a statewide review of reading instruction. Appendices present the evaluation instrumentation and related data. (CMG)

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An Evaluation of School Effectiveness Programs in Connecticut

TECHNICAL REPORT

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An Evaluation of School Effectiveness Programs in Connecticut

TECHNICAL REPORT

Connecticut Department of Education

State of Connecticut Department of Education 1984

AN EVALUATION OF THE

SCHOOL EFFECTIVENESS PROGRAM

IN CONNECTICUT

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An Evaluation of the School Effectiveness

Program in Connecticut

I. INTRODUCTION

Schools can and do make a difference in how much and how well all children learn. During the past decade, educational research findings have contributed greatly to our understandings of more effective school practices to improve learning, teaching and leadership.

Over the past several years, a number of school effectiveness activities have been initiated by the Connecticut State Department of Education. Based upon research findings, a model and process were developed to help schools increase their effectiveness and instruments were developed to measure the status of school effectiveness characteristics.* To date, 35 have volunteered to participate in the Connecticut School Effectiveness Program.

The purpose of this evaluation is to present what has occurred, in terms of school processes and products, in order to improve program practices at the State Department, district and school levels.

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*The following publications by the Connecticut State Department of Education contain extensive information about the school effectiveness research and about the Connecticut School Effectiveness Program:

Instructionally Effective Schools: A Model and a Process (Gauthier, W., 1983)

Research-Based School Improvement Practices (Shoemaker, J., 1984)

Handbook for Use of the Connecticut School Effectiveness Interview and Questionnaire (Proctor, C., Villanova, W., 1984)

This document is intended to:

- o provide information about the degree to which the program is accomplishing its stated purposes;
- o stimulate thought and discussion about school improvement practices;
- o inform the State Department policy making and decision making processes; and
- o contribute to the research and evaluation literature base for school effectiveness.

II. THEORY INTO PRACTICE

The Connecticut General Assembly, in 1978, required that a comprehensive plan be developed for elementary and secondary education. At the same time, the General Assembly made clear its concerns about the relatively poor achievement of low income children. A program to improve school effectiveness provided not only a timely response to the legislature, but also a progressive chapter in Connecticut's Comprehensive Plan for Elementary and Secondary Education.

Connecticut's School Effectiveness Plan is based upon the pioneering research of Wilbur Brookover, Ronald Edmonds and Lawrence Lezotte. The plan became operational in the summer of 1980 when, as part of a Department reorganization, a unit to implement school effectiveness was included in the Bureau of School and Program Development. By the winter of 1980-81, the involvement of staff from the Bureau of Research, Planning and Evaluation were added to help design an evaluation for the program.

Connecticut's definition of an effective school focuses on the achievement performance of low-income children. Based on Edmond's definition (1979), a school is effective if, and only if, the proportion of low-income children obtaining mastery is the same as the proportion of middle-income children obtaining mastery. Schools in which only middle-income children achieve mastery are categorized as differentially effective and schools where very few low or middle-income children achieve mastery are classified as ineffective.

The Connecticut State Department of Education has selected seven characteristics that emerge from the literature on school effectiveness that appear to be correlated with student achievement.

- Safe and Orderly Environment. There is an orderly, purposeful atmosphere which is free from the threat of physical harm. However, the atmosphere is not oppressive and is conducive to teaching and learning.

- Clear School Mission. There is a clearly articulated mission of the school through which the staff shares an understanding of and a commitment to instructional goals, priorities, assessment procedures and accountability.

- Instructional Leadership. The principal acts as the instructional leader who effectively communicates the mission of the school to the staff, parents and students, and who understands and applies the characteristics of instructional effectiveness in the management of the instructional program of the school.

- High Expectations. The school displays a climate of expectation in which the staff believes and demonstrates that students can attain mastery of basic skills and that staff members have the capability to help students achieve such mastery.

- Opportunity to Learn and Student Time on Task. Teachers allocate a significant amount of classroom time to instruction in basic skills areas. For a high percentage of that allocated time, students are engaged in planned learning activities.

- Frequent Monitoring of Student Progress. Feedback on student academic progress is obtained frequently. Multiple assessment methods such as teacher-made tests, samples of student work, mastery skills checklists, criterion-referenced tests, and norm-referenced tests are used. The results of testing are used to improve individual student performance and also to improve the instructional program.

- Home-School Relations. Parents understand and support the basic mission of the school and are made to feel that they have an important role in achieving this mission.

The Connecticut School Effectiveness Program attempts to assure the acquisition of mastery in reading, writing and mathematics for all children by helping schools examine and improve the characteristics listed in the model. This is accomplished through a voluntary process which helps a principal and faculty examine certain characteristics associated with student learning, develop an action plan and initiate long-term change aimed at modifying these characteristics in a school-based setting. Schools are encouraged to resist addressing only one characteristic at a time. Meaningful change is seen as

addressing instruction, curriculum, organizational dynamics and community involvement in an integrated way. School Effectiveness initiatives must be strongly supported by central office personnel but the autonomy of the principal and faculty members must be protected. The process includes the following steps:

- o Initial Contact. A facilitator from the Bureau of School and Program Development is designated as the person who will provide assistance to the school. The initial contact is made with the superintendent of schools and a meeting takes place. The research background, the model and the process for working with specific schools in the district are described. There is an emphasis that school effectiveness will not resolve personnel problems.

- o Dialogue and Commitment. If the superintendent agrees to proceed, the facilitator meets with a designated principal. Principals express their willingness to participate either to their superintendents or to the Department staff directly. The program is discussed in detail and the facilitator stresses the importance of the principal to the eventual success of the process. The facilitator indicates that this is an opportunity for the principal and faculty to carry out a self analysis of their school. The assessment team will help them collect information, but extrapolations from the data must be made by principal and staff. The final action must be theirs. At the end of the exchange, the principal and faculty decide whether or not to participate in the program.

- o Assessment.* The assessment takes place over a two-to-three day period by staff from the Bureau of School and Program Development using The Connecticut School Effectivenss Interview, a 67 item structured interview that probes the seven school effectiveness characteristics (Appendix A), and The Connecticut School Effectiveness Questionnaire (Appendix B), a 100-item, paper-and-pencil instrument that parallels the structured interview. Achievement data are gathered and analyzed by socioeconomic class subsets (Appendix C). Archival data such as mastery skills checklists, report cards, and student handbooks are collected and integrated (Appendix D). These data are compiled and profiles are prepared by staff from the Bureau of Research, Planning and Evaluation. The results are shared first with the principal and then with the entire faculty.

*Assessment of several schools in the School Effectiveness Project was conducted using a New York based assessment because in the early stages of this project, the Connecticut assessment instruments had not not yet been developed.

- o Problem-Solving Institute. The principal and school action planning team are taken to a site away from the school setting. Over a two-to-three-day period, they analyze the data gathered during the assessment. The facilitator helps the school personnel analyze data from various sources and helps the team develop an action plan based upon the assessment findings.

- o Implementation. The principal and the action planning team return to the school and present the action plan to the entire faculty and implementation occurs according to the time line delineated in the action plan.

To date, 35 elementary, middle schools and one junior high have begun the process. The 14 schools which have been participating the longest (at least two years prior to June 1983) are the focus for this evaluation report. As a statewide initiative, school effectiveness has several distinguishing features which are critical to the development of an evaluation design:

- o Volunteerism implies not only that schools are not obligated to participate, but also that schools are not accountable (at least to the Department) for what they accomplish or fail to accomplish.

- o The Department provides no direct funding to participating schools and few, if any, staff development resources beyond the initial assessment and action plan phases.

- o Since school effectiveness essentially is in the hands of each participating school, the pace and intensity of improvement is dictated by the willingness, commitment and readiness of the school faculty.

- o Since basic skills achievement is defined by each school's testing program, basic skills achievement across 14 schools is measured by a variety of different standardized norm-referenced tests.

Given these constraints, all 14 schools agreed to participate in the evaluation process. The schools are located in seven districts:

District	Number of Schools
Meriden	4
Hartford	2
New London	2
New Britain	2
Vernon	2
Coventry	1
Griswold	1

III. EVALUATION DESIGN

Developing an evaluation design for the Connecticut School Effectiveness Program posed some unique challenges. Unlike other educational innovations, school effectiveness has emerged as a home-grown enterprise. At its core, the evaluation of school effectiveness, at least in Connecticut, is the study of teachers and principals putting research into practice with all the inevitable bumps, twists, and U-turns. If there are 14 schools in the evaluation sample, there are likely to be 14 individual responses to what the research says, how the assessment data are used, and what the goals and objectives should be in the project.

It is imperative that the design fit the wide range of implementation efforts. However, in this case, schools and the Department were developing implementation strategies at the same time as the implementation of the program was occurring. The original 14 schools had a hands-on learning experience. Thus, school effectiveness initiatives are much less systematic in the original 14 schools than in schools which entered later.

The school effectiveness evaluation design in Connecticut includes both quantitative and qualitative methods for gathering outcome information on both school processes and products, including, but not limited to, student achievement. The intent of this evaluation is to obtain a better understanding of what works and what doesn't work in the program. The evaluation is formative in that its' major purpose is to improve program practices.

The evaluation design contains four components:

1. Context Information . Context information is defined as baseline

data from the assessment instruments gathered at the beginning of the program. The school's initial status on the seven characteristics, student achievement scores on standardized tests, and the school's action plans are included.

2. Process Information. Process information describes to what extent and by what means school faculties have implemented their action plans. Process data were collected in several ways:

   - o Case studies lasting four to six days allowing time for in-depth, semi-structured interviews and school and classroom observations were conducted in four of the 14 schools.

   - o One-day case studies allowing for samples of teachers to be interviewed were conducted in the remaining ten of the 14 schools. A Practice Profile (Appendix E) which emphasizes the degree to which a school's action plans are being accomplished, was used in the one-day visits.

   - o Interviews were conducted with the state facilitators and with district administrators.

   - o School-based archival and evaluation data were reviewed.

3. School-Based Outcomes. The assessment of school-based outcomes is utilized to document changes that have occurred in the school as a result of school effectiveness efforts. Data sources for this review include document reviews, semi-structured interviews, pretest and posttest results of the Connecticut School Effectiveness Questionnaire, achievement data over time, and case study information.

4. Cross-site Impact. The focus of this evaluation component is to assess the impact of school effectiveness across all 14 sites. In addition, school effectiveness impact is measured over at least a three-year period.

The assessment of the impact of school effectiveness will primarily focus on the following evaluation questions:

- What action plans have been developed to address the school effectiveness characteristics (context evaluation)?

- To what extent has the school effectiveness program been implemented (process evaluation)?

- To what extent has the implementation of school action plans promoted changes in school organizational practices, climate and instruction over time (school-based evaluation)?

- Are there significant changes over time in reading and mathematics achievement scores for low-income and other students (school-based evaluation, cross site evaluation)?

- Are there significant changes over time in the presence of the seven school effectiveness characteristics as measured by the Connecticut School Effectiveness Questionnaire (school-based evaluation)?

- What is the relationship among the school effectiveness characteristics, achievement outcomes, and case study findings (cross-site evaluation)?

Charts 1 and 2, on the next two pages, outline the evaluation design.

CONNECTICUT SCHOOL EFFECTIVENESS PROJECT EVALUATION COMPONENTS, QUESTIONS AND DATA SOURCES

Content	Process	School-based Outcomes/ Cross-site Outcomes*
1. What is the status of the school on the school effectiveness characteristics?	1. To what extent has the school implemented it's action plans?	1. To what extent has the implementation of school action plans promoted changes in school organizational practices, climate, and instruction over time?
2. What action plans have been developed to address the school effectiveness characteristics?	2. What modifications were made in the implementation of the school's action plan?	2. Are there significant changes over time in reading and mathematics achievement scores for low income and other students?
3. Is there a relationship between SES status (low and middle income) and student achievement?	3. What constraints exist that may have impeded implementation?	3. Are there significant changes over time in the presence of the school effectiveness characteristics?
4. What type of information exists to support the school effectiveness characteristics?		4. What is the relationship among the school effectiveness characteristics, achievement outcomes and case study findings?
DATA SOURCES		
1. Connecticut Interview and Questionnaire	1. Liaison Interview	1a. Four to Six Day Case Study
2. School Action Plans	2. Evaluation of Action Plan	1b. One Day Practice Profile
3. Norm-referenced Standardized Tests	3. Archival Data/Self Report	2. Norm-referenced Achievement Test
4. Archival Data		3. Pretest/posttest Questionnaire
		4. All of the above plus archival data

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Chart 2

DATA SOURCES FOR THE EVALUATION COMPONENTS AND DATA COLLECTION ACTIVITIES

	Time of Assessment
CONTEXT INFORMATION (YEAR 1)	
- Interview	
- Questionnaire	
- Achievement Profile	Beginning of Project
- Archival Data	
- Action Plan	
PROCESS INFORMATION (YEAR 2)	
- Liaison Interview	Spring of Second Year
- Archival Data	
- Evaluation of Local Action Plan	
SCHOOL-BASED OUTCOMES (YEARS 2 AND 3)	
- Questionnaire	Pretest/Posttest
- Achievement Profile	Yearly, Spring
- Archival Data	Continuous
- Evaluation of Local Action Plan	Spring of Third Year
- On-site Review (case study)	Winter/Spring of Third Year
- Other Supporting Data (state and local)	When Available
CROSS SITE OUTCOMES (YEAR 3+)	
- Questionnaire	Biennial Administration
- Achievement	Yearly, Spring
- Archival	Continuous
- On-site Review (4-6 day case study)	Winter/Spring of Third Year

OVERALL SUMMARY OF DATA COLLECTION ACTIVITIES

Data Sources	Date Collection Schedule
Achievement, Standardized Tests	Yearly
Connecticut Interview	Initial Assessment
Connecticut Questionnaire	Pretest (initial), Posttest (end of 2nd year)
One-Day Case Study (Practice Profile)	End of Third Year, Intermittent after Initial Assessment
Four-to-Six-Day Case Study	End of Third Year, (intermittently, if resources permit)
Archival Data	Continuous
Other Supporting Data (state and local)	Continuous

IV. THE CHARACTERISTICS OF SCHOOL EFFECTIVENESS

The Connecticut School Effectiveness Questionnaire has been developed to assess seven dimensions of effective schools: safe and orderly environment, clear school mission, instructional leadership, high expectations, opportunity to learn, frequent monitoring of student progress, and home-school relations. A pretest and posttest administration strategy was used to assess changes in the seven characteristics over time.

Change over time in the seven characteristics of school effectiveness is based upon principals' and teachers' recorded perceptions on the questionnaire. Of the 14 schools participating in the evaluation, pretest and posttest questionnaire results were available for ten schools. In these ten schools the questionnaire was administered for the first time between January and June of 1982 and for the second time between June of 1983 and June of 1984. The differences in these dates reflect different times in which schools entered the school effectiveness process. Generally, the pretest and posttest dates span about one year to a year and a half from one testing time to the other. The evaluation question of interest in this analysis is:

> Are there significant changes over time in the presence of the seven characteristics as measured by the Connecticut School Effectiveness Questionnaire?

Findings

The pretest and posttest questionnaire analysis for each individual school is presented in Tables 1 through 7 in Appendix F. Table 8, on the next page, presents a summary of Tables 1 through 7. In addition, information about the intensity of implementation and the focus of the school's action plans have also been included in the table.

Table 8

Summary of Significant* Changes in the Seven Characteristics Over Time, Intensity of Implementation[a] and Action Plan Focus[b]

**School	Safety	Mission	Leader-ship	Expec-tations	Time	Moni-toring	Home	Intensity of Implementa-tion Index[a]
A	Significant Change[b]	Significant Change[b]	Significant Change[b]	Significant Change[b]		Significant Change	Significant Change	High
B	b	Significant Change		b	b	Significant Change	Significant Change	Moderate
C	Significant Change[b]		b		Significant Change		b	Moderate
D	b	Significant Change	b		Significant Change		Significant Change	Moderate
E	b	Significant Change	Significant Change		b	Significant Change	b	High
F	b			b		Significant Change		Moderate
K	Significant Change	Significant Change	Significant Change[b]		Significant Change	b	Significant Change[b]	High
L	b						Significant Change[b]	Low
M		Significant Change[b]	b				Significant Change	Low
N								Low
AGGREGATE SUMMARY								
	Significant Change	Significant Change	Significant Change	No Change	Significant Change	Significant Change	Significant Change	Moderate

* $p < .10$
** Schools G, M, I and J had no posttest questionnaire, thus are not included above.

[a]Implementation Index determined by the collective judgements of SEA facilitators and evaluators.
[b]Action Plan Focus determined by archival data review and case study interviews.

Highlights of the findings in change over time on the seven school effectiveness characteristics follow:

- Clear School Mission and Home/School Relations showed significant positive change in six schools.
- Monitoring Student Progress showed significant positive change in four schools.
- Safe and Orderly Environment, Leadership and Opportunity to Learn/Time on Task showed significant positive change in three schools.
- Expectations showed significant positive change in one school.
- In School A, six of the seven characteristics showed significant positive change. In one school, School K, five of the seven characteristics showed positive change.
- In three schools, Schools B, D and E, three of the characteristics showed significant positive change.
- In two schools, Schools C and M, two of the characteristics showed significant positive change.
- In two schools, Schools F and L, one of the characteristics showed significant positive change.
- In one school, School N, none of the characteristics showed significant positive change.
- Overall significant positive change was found in 26 of a possible 70 cells in the table.
- In the aggregate analysis, six of the characteristics changed significantly and one, Expectations, did not change significantly from Time 1 to Time 2. The overall analysis shows that across all schools there was a significant improvement in the perceptions of the staff on six of the seven school effectiveness characteristics.

The intensity of implementation index ranked schools as low, moderate or high and was determined by the collective judgments of Department facilitators who worked most closely with the schools and the evaluators who conducted case studies and reviewed archival data. Of the three schools, A, E, and K, which ranked high on the intensity index, two schools, A and K, also showed the

highest number of positive changes on the questionnaire. Of the three schools, L, M and N, which ranked low on the intensity index, two schools, L and N, showed the fewest positive changes on the questionnaire. School L changed on only one characteristic, while school N had no significant changes.

Action Plan Focus was recorded in 24 cells in Table 8. School A had the most action plans (4), the most positive changes on the questionnaire (6) and ranked high in intensity of implementation.

Of the 24 action plans recorded, nine (38%) corresponded to significant changes on the questionnaire. That is, schools that developed actions plans related to specific characteristics showed a significant change in those same characteristics in 38% of the cases. In addition, half of the ten schools have action plans documented in the areas of Safe and Orderly Environment and in Leadership. Less than half of the schools recorded action plans in the remaining five characteristics.

Questionnaire Summary

There is consistency between the intensity of implementation and measured significant positive change. The implications are that the school effectiveness characteristics may be more alterable when teachers and principals directly focus attention upon them.

There is less consistency between the recorded action plan focus and measured significant positive change.

Except for the extremes (schools where changes were most numerous and least numerous), recorded action plans only moderately (38%) related to significant changes on the questionnaire. At least two possible explanations

can be offered. In most schools, the action planning process was present at the beginning but did not continue in a formal, documented way throughout the life of the program. Even though there are no recorded action plans in many schools, there was a continuing focus on the characteristics. Secondly, the characteristics should not be considered discrete even though the questionnaire forces them into a discrete mold. A focus on one characteristic is very likely to cause a change in another characteristic. For example, where principals stress the importance of coordination and articulation of curriculum across and between grades and where principals emphasize the importance of test scores, changes on the Clear School Mission characteristic may result, even though the focus originated from the leadership of the principal rather than from an action plan addressing Clear School Mission. At the same time, measured change may occur on the Clear School Mission characteristic even though the curriculum changes are the result of a principal's instructional leadership.

The case study data (4-6 day case study) provides another perspective of the impact of the school effectiveness characteristics on schools. In these analyses the researchers attempted to track: What happens in shools as implementaion begins? How do teachers and principals translate research finding and the school effectiveness characteristics into day-to-day activities? and What are the perceptions of school faculties about the impact of these changes? The following section will highlight the case study findings focusing on each characteristic separately.

Translating the Seven Characteristics

What happens in schools as implementation begins? How do teachers and principals translate the research findings and the school effectiveness characteristics into day-to-day activities?

1. Safe and Orderly Environment

The safe and orderly environment characteristic was both a "safe" and a popular place for schools to try out school improvement. Most faculties addressed this characteristic in their beginning action plans and their activities reflect the wide variety of schools in the project. For example, in one urban school, security guards were hired, locks and buzzers were installed on doors, and closer associations were formed with the police. In one suburban school, rewards were established for good citizenship, the school got painted and bulletin boards were made more attractive and prominent. In almost all schools, discipline policies were reassessed and expanded to include rules for the playground, cafeteria, auditorium and other noninstructional spaces. The "everybody shares in the responsibility" idea was reaffirmed as all faculty were

2. Clear School Mission

The clear school mission characteristic was addressed in about half of the schools but, for the most part, there was a lack of intense focus in this area which refers to academic focus. Grade-level skills in reading and mathematics were developed in one school, there was attention to curriculum articulation between and among grades in a second, and a single textbook series in reading was instituted in a third.

In most schools, curriculum activities such as developing goals and objectives and developing textbook selection practices were underway prior to

participation in school effectiveness. If there was a lack of attention to this characteristic, it was in aspect of extenders curriculum activities to determine grade level skills which all students would be expected to master and to help teachers improve their instructional skills.

3. Instructional Leadership

Principals are highly visible in this project. Whereas teachers are able to remain anonymous in the assessment process and work collectively in the implementation phase, there is only one principal in each school and the principal's leadership qualities often become the focus of attention.

Principals instituted many changes. They (1) increased the quantity and quality of formal teacher observations; (2) devoted faculty meetings to curriculum and instruction topics; (3) sought out and arranged for more frequent staff development and they became "more open" and "more supportive", and (4) paid more attention to time on task. In almost all schools, the principal minimized or eliminated interruptions by the public address system or notes to teachers during instructional time. They showed an increased respect for the teaching process by these actions. Principals became more adept with problem solving techniques, increased their personal contact with staff and became more visible throughout the school.

Teachers note the changes. They describe their principals as "truly committed, caring, zealous, sensitive, considerate and mellow,"; people who also "displayed clear, strong leadership," "held teachers accountable," and "required lesson plans."

The combination of "shared decision making" and "strong principal instructional leadership" influenced the growth of collegiality. By collegiality is meant a partnership among school staff, including the principal, in the entire process of change--from the initial identification of

issues to implementation and modification of activities. Principals can "give up" a strategy of autonomous decision making, and simultaneously enhance their leadership skills. Here are two examples:

> "I've noticed a real change in how the principal talks about the observation and how he writes things up. He doesn't mention the bad things; he isn't being critical in your informal observations the way he used to be. For the formal district evaluation, he says what he'll be looking for. The purpose is to get us to think about why we're doing what we do. And I think that if we're doing something right, then we ought to know why we're doing it right, so that we can keep on doing it".

and...

> The principal was making an effort to lessen her control a bit. "We had meetings with the administrator and told her how we felt, and what we were unable to do because of what she had done," reported a staff member. "And she in turn discussed how we had treated her, and that door opened up so that we could see her point of view and she could look at our point of view and this way there was more understanding. She tried, and we tried, and it seemed to work."
>
> "It was interesting to see things happen, to watch her change, to become more involved with the staff, to become more a part of the staff and not just a separate entity," commented a planning team member. "At the end of that school year we were beginning to try to work things through. The office doors were open a bit more. Teachers seemed to be allowed to do more."

4. High Expectations

Many teachers and principals addressed their expectations about what, how much and how well students can achieve as a function of race or economic background. One of the most popular staff development sessions was the Teacher Expectations and Student Achievement (TESA) Program. In three schools, as many as 85% of the teachers received training in TESA over a two year period. In other schools, teachers were merely introduced to the concept, or only a few teachers underwent extensive training.

For example, in one school assessment, the data indicated that teachers lacked high expectations for all of the children in their classes. After considering this issue, they agreed to investigate the research on

expectations and then involve themselves in an intensive series of workshops to help alter their attitudes and behaviors. The facilitator helped to arrange for TESA, an in-service program that continued for several months and was funded by the district.

Although the district was unable to provide substitute coverage for teachers to observe one another, an integral part of training, the principal, eager to have her teachers pursue this opportunity, chose to cover the classes herself. The teachers were most appreciative.

After the formal training was completed, participants reported that they continued to pay attention to issues of teacher expectations, and began to talk to other staff members about what they had learned.

> "We became involved in reading articles to become more open-minded in thinking and sharing with the staff the results of our findings. Not preaching to them, just sharing and trying to change attitudes, as to how they saw children in the classroom. Not to see them as children who had failed first grade, as a failure, but feeling that a new year had begun and the youngster had the ability if we would just try and tap it."

Only five teachers and the principal from this school participated, but the training had a powerful impact on them, and they spread the word to their colleagues.

Nonparticipants who heard about the training and its message from their principal and colleagues were equally aware of and sensitive to this issue.

> "In the past, if a child couldn't do something, we kind of patted him on the head and said, 'We'll try later'. By the time later came, perhaps we'd forgotten about it. And if you don't keep after it, it's just lost and they don't get it. Before they (the experts) used to say, 'Don't get the child upset, just leave him alone, if he can't answer, you just let him sit there. Later on he'll do it.' But that wasn't the case. And now, if a child just sits there, we keep on coming back until he finally gets it. And children show a responsibility now for giving an answer."

5. Opportunity to Learn/Time on Task

Making the most of allocated time became a formal activity in most participating schools. Judicial use of the public address system, adherence

to time schedules for classes to begin and end, and attention to reducing time for noninstructional tasks occurred overnight in most participating schools.

In several schools, staff did a serious examination of the coordination of instruction for students who receive extra attention from bilingual teachers or remedial teachers.

In one school, 50% of the staff participated in "time-on-task" workshops after school. As a follow-up to the workshops, teachers were scheduled to observe each other while teaching and to code students' time on task in an organized fashion. Teachers discussed the results with and learned from each other.

6. Frequent Monitoring of Student Progress

In almost all participating schools, teachers and principals began to pay more attention to test results. In two districts, central office administrators designed procedures to disaggredate scores by "low income" and "other" for the individual schools.

One school implemented a new mathematics program that included careful monitoring of students progress. According to the principal:

> Almost all teachers are now using the same structured approach. The book comes with structured monitoring sheets that allow teacher to keep careful track of how kids are doing by skill areas. They now can see if a whole group is getting it or a subgroup might be pulled together for special instruction. The monitoring has also drawn teachers to pay special attention to low achievers. They used to accept a 60 or 70 on a test as a grade for low-achieving youngsters. Now the emphasis is on mastery -- on raised expectations for lower-achieving students.

In another school, the principal and the reading consultant monitor student progress closely. They examine and sign off each end-of-level skills test for each student. The principal displayed a test, a skills record, and a

sign-off sheet (which is sent home to parent indicating mastery of skills at that level) which he happened to have on his desk for one group of second grade students.

In addition, the reading consultant said they examine the standardized tests given yearly to "corroborate what they know about kids" adding that she "keeps track of every kid." If students are not making the progress she thinks they should, she said she takes it to the principal and often takes those students for extra instruction. She said that teachers have the option for "an ongoing diagnosis," to "flag" students for additional help at any time. The principal said he examines the standardized tests and compares his school performance with others in the system. He showed charts which demonstrated dramatic improvement on skills tests in areas in which students had received instruction.

7. Parent Involvement

Parent involvement received the least amount of specific attention in the development of a school's action plan. It appeared that parent involvement was part of an ongoing activity in schools and thus was not singled out in the School Effectiveness Program.

In two schools, parents were invited to become part of the process from the beginning assessment phase. Special assessment questions were developed for parents. Parents' results were tabulated and parents were invited to participate on action planning committees.

In another school, parents logged an impressive 1,000 hours of volunteer work and helped teachers in the classroom by working with students on skills reinforcement.

V. CASE STUDY FINDINGS: CROSS SITE ANALYSES

In order to produce detailed descriptions of each program and its impact around the proposed issues, 10 one-day and three six-day case studies were completed using qualitative research methods such as document review, classroom observations, and in-depth semi-structured interviews.

The focus of the one-day case studies was on the implementation of each school's action plans. A Practice Profile enabled us to measure the components of the implementation of school effectiveness strategies at each school site (see Appendix E). The practice profile technique provided us with a way to structure our visits and measure implementation components of school effectiveness strategies at each school site.

The focus of the four-to-six day case studies was on the full range of process and product outcomes. The purpose was the development of detailed descriptions of the three schools studied and the identification of promising practices or key variables that contributed to the overall success of the program. Outside researchers trained in qualitative methods were responsible for carrying out this component of the evaluation.

The important/central evaluation question was:

> To what extent has the school effectiveness program promoted changes in school organizational practices, climate and instruction over time?

Analysis of the data suggest that we answer that question best by highlighting eight elements in the project: the change process, the assessment process, improving intra-school communication, voluntary participation, the state facilitator role, student achievement, the district office role and program dropouts. (The 4-6 day case studies have been provided in the addendum to this report.)

The Change Process

Principals and teachers rarely are entrusted with designing school improvement activities for themselves and so the Connecticut process is unique in providing school staff with that opportunity within the framework of the effective schools characteristics. Case studies reveal that along with the opportunity, welcomed by school staffs, comes a certain degree of ambiguity. Project goals and process were explained to teachers and principals before they voted to engage in the School Effectiveness project; yet most participants said they were unclear about both at the outset. Instead, staff talked about the project as providing a framework for what they were doing already, and as a way of sharing responsibility for the school with each other and with the administration. Data collected at the school site provided the first occasion for concrete activity in the change process.

The Assessment Process

The assessment process, implementation of the questionnaire and interviews and feedback sessions, had a high degree of legitimacy. The information was gathered from the teachers and principals themselves. Sometimes the data confirmed what most teachers expected; occasionally it surprised them. Most found the data enlightening, even when surprising, although a few claimed that they had misunderstood the questions. A teacher in one school felt the assessment process was important, "because many in the faculty (before the assessment) didn't think there was anything wrong . . . People were surprised at what came out. Some disagreed with it and some blamed it on the ambiguity of the questions. ." But more often teachers claimed that they agreed with the compiled data, and were pleased to find that they were not alone in their concerns or in their desire for change. "The faculty were intrigued by it (the data). Prior to that, they had been afraid to say what the problems were

and now here they were, being openly discussed. And it was good for people to see how many felt the same way."

Teachers in another school had a similar reaction. They had been seeking a way in which to change their relationships with their principal. "We were at opposite poles with our principal," said one long-time teacher in the school. "We felt threatened by each other and yet we wanted to work together." "We needed tools to work with to settle things, but we didn't have them," said another. Data, anonymously collected and aggregated by the state, gave them a safe opportunity to express their honest opinions about the school, their principal and their expectations. "Everybody liked the interviews and the forms," said another teacher from this school. "We felt good about finally expressing ourselves, and the interview was so formal that you knew they would keep it confidential."

In the data collection phase of the project, the Department too, was gaining legitimacy and earning the trust of the school staffs. Legitimacy accrued more specifically to the facilitator who worked with the school. On those few occasions when the state was late in returning the data to the schools, often it was the facilitator or evaluator, as representative of the state, who incurred the wrath of school staff.

In these schools and in others, prior to the program, teachers and principal, both committed to improving educational opportunities for children and improving their own daily lives in school, had found no safe and effective way in which to address their mutual issues. Data on paper provided each with an opportunity to pursue the situation individually and then assemble to discuss and plan improvement interventions.

Improving Communications

In virtually every school, teachers and principals discovered from the

data (if they did not already know) that communications were less successful than they desired. However, prior to the program, they had neither the time nor the mechanism with which to address changes in this area. The institute*, with the data and the presence of a state facilitator, provided the time, space and technical skill to safely address the communication issue.

In two schools, improved communications became an end in itself rather than a means to accomplish other priorities. As a result, faculties became adept in expressing their opinions and feelings with each other but they did not choose to communicate about the characteristics of effective schools.

Communications problems can, and do, cut across many other aspects of school life that are related to effectiveness. Poor communications can lead to a lack of instructional leadership, or a failure to coordinate instruction in a way that provides maximal learning time for students. In this respect, communications can be an overreaching issue that indirectly affects other characteristics. As such, it is worth the attention of the school staffs and the project provided this opportunity.

Voluntary Participation

The voluntary nature of participation in the School Effectiveness Project is both a help and a hindrance. At the outset, it insures at a minimum that the state has not mandated participation. However, some schools felt a mandate to participate from the district. District administrators in a few towns and cities prodded and cajoled and pushed schools in need of assistance into the program in the hopes that it would improve any one of a number of local problems. In one school, for example, the hope was that participation

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*Institute refers to the problem-solving session with faculty representatives to develop action plans.

would reduce the tension (and the number of grievances) in the school and give teachers a sense of involvement in decision making. In other schools, principals pressed for participation because School Effectiveness "fit in" with their personal plans which included, but went beyond school improvement. Nonetheless, participation in most schools could reasonably be called voluntary.

Voluntary participation helped the process because schools had some level of choice; it interfered with attention to the goals of equity and achievement. Schools were reasonably free to shape the program as they chose and were not held accountable for achieving those goals. Voluntary participation was a potential hindrance because teachers and principals could half-heartedly vote to cooperate and then do very little.

The State Facilitator

The role of the state facilitator was crucial during the assessment and planning phases. Facilitators had to deal with the difficult task of forging a team out of a principal and four or five teachers who had little opportunity to work before as a group. At times, due to tensions in the schools, staff had previously avoided talking to each other. In one school, for example, the facilitator was critical in building trust among the team members so that they could begin to work on school issues. In all of the schools, the facilitator was critical in helping the team to develop their own action plan for reentry into the school, presentation of the data and priorities to the school staff, and for helping the team begin to implement the project.

For the most part, Connecticut State Department of Education involvement was greatest through this planning/institute phase. School teams left the institute often with a set of action plans for goals and objectives that they would address during the first year. Depending on the composition of the

action planning team and the extent of implementation back in the school, these characteristics either did or did not become part of the entire staff's vocabulary. In one school, where the program was confined largely to those who were on the planning team, the language of school effectiveness did not spread throughout the school. In other schools, participation was broadened, the characteristics were discussed at regular faculty meetings, and their presence was more apparent in the school.

There is unanimous agreement that the state facilitators contributed greatly to the initial success of the assessment and action planning phases. However, as the program moved out of the initial phases, the facilitator's role became less clear, considerably less pronounced. There was ambiguity about what, if anything, was expected of the facilitator. A few schools had several different facilitators, each with a unique style, which extended the ambiguities.

It was difficult for teachers in several schools to describe the facilitators role. Faculty might indicate that the facilitators "come around a lot", but they could not describe what, in fact, facilitators do. In a few other schools, teachers could not recall the name of the facilitators, nor could they recall having any contact with that person beyond the action planning phase. Some principals stated they "get all the help they want." Others stated that "they haven't received any help."

After the assessment and institute we have the impression that facilitators "keep the peace" and do not "make waves." Facilitators say they provide resource materials, attempt to broker staff development services, serve as a sounding board for issues and concerns, provide continuing help with action planning, and arrange data collection for evaluation. They describe an active facilitation role. With the exception of the two districts

described above, school people would describe it as a passive, hands-off role that leaves principals and teachers to assume the primary responsibility for solving problems.

In two communities the state facilitator made a significant contribution through continued and frequent contacts with the schools and, when possible, brokering of staff development resources. Both communities are served by the same facilitator and in both communities, the School Effectiveness Program is beginning to be institutionalized at the central office level. In no other communities has this occurred. It seems apparent that when follow-up facilitation is tried, it can work.

The Achievement Dimension

One of the most glaring discrepancies between the way in which school staff has interpreted school effectiveness, and the way in which the state developers have envisioned its use, occurs in the treatment of student achievement.

The lack of direct focus on achievement is partly a result of local agenda and also a result of the way in which the program was described by state facilitators to school staff. According to school people, the project was billed as a school improvement project in which school staffs would have the opportunity to work on issues that concerned them. For the staffs in most participating schools, those issues were communications and safety. However, to be fair, improved achievement is the ultimate goal of all that goes on in schools. Student learning is the reason that teachers and principals are in school each day.

Furthermore, some facilitators decided against bringing back disaggregated achievement data to the staff during the institute phase and, as a result, a few principals and teachers never saw the achievement profiles prepared for

their schools. The lack of attention to achievement on the part of some facilitators coupled with a choice by some principals and teachers to focus on other salient issues shifted attention away from achievement. Sometimes the achievement focus was deferred to gain entry into the schools. Other times out of a belief that other issues had to be addressed at a school first in order to create an atmosphere conducive to a more intensive instructional focus. Whatever the reasons, the result is that school faculty overwhelmingly view the school effectiveness project as primarily a self renewal project (school improvement) and not an outcome based project.

The District Office Role

The importance of the school as a social system is so dominant in the school effectiveness research that the role of the district office either was ignored or was afforded superficial treatment. In Connecticut, up front attention is paid to gaining the approval of the superintendent and there is cursory mention of a district office coordinator but once implementation began, in four of the seven districts with participating schools, there has been little or no attention paid to the district office.

District involvement ranges from high to benign neglect. In the most involved case, a district administrator meets frequently and regularly with participating principals. The state facilitator holds schools responsible for action plans, provides resources where possible, and aggressively promotes school effectiveness. In another case, the superintendent along with the board and each district administrator identified school effectiveness support responsibilities as part of their early planning.

There is some evidence to suggest that the degree of central office involvement may make the difference between program survival and program demise where principal turnover is at issue. School effectiveness began in

the fall of 1980 with five principals. Only one of the principals is in that same position today. In the four remaining schools, two of the new principals continued in the program and two did not. The two continuing schools are in districts where central office support and involvement is high. The two schools which dropped out are in districts where central office had little or no involvement and paid little attention to the program when replacing the principals.

Program Dropouts

Not all schools survive the school effectiveness process. Six of the original 20 schools have withdrawn from the program leaving 14 for this evaluation. There is some evidence to suggest that the principal is key to keeping schools in the project and to getting them out.

- Two schools dropped out because the principal left.
- Three schools dropped out because serious disagreements arose between the principals and the staff. These problems could not be resolved and the program was discontinued.
- One school dropped out because the principal decided without consultation with staff to terminate the project.

Clearly, this process is not for all principals. It appears that principals whose leadership behavior may be challenged the most seem least willing to adjust to the School Effectiveness process. An equally important issue yet to be discussed is the responsibility of the State Department of Education to the school and to the district when the process fails.

Case Study Summary

School effectiveness has a strong presence in many schools, and less of a presence in others. The program tends to shift in and out of prominence in a school because it depends upon the stance of the principal, the involvement of teachers, the importance of competing projects, the support of the district

administration, and the skill, resourcefulness and time commitment of the state facilitator. Throughout the participating schools, there has been little suggestion that the program is a bad idea or on the wrong track. Where it has been tried, it is more likely that school people will complain that the program lacks the resources to fulfill its promises. Where it has been successful, it is usually because someone or some group within the school district was strong enough to make it happen; a district administrator/who volunteered a school and then shepherded it through a principal or the state facilitator who helped guide the school along the path of improvement. Where the program had been least successful, it was usually because no one took the time or had the skills to help it develop. Neither school site personnel, district personnel, nor the state facilitator devoted the time to make it work.

VI. ACHIEVEMENT FINDINGS

Definition of an Effective School

> A school in which the proportion of low income students performing below minimum acceptable levels of basic skill proficiency is not greater than the proportion of other children in the school who perform below such levels; and all children in the school are performing at acceptable levels of basic skill proficiency as determined by the application of a generally accepted school-based standard.

The previous section described in some detail the variety of approaches that were initiated by schools to become more effective. In taking this approach, schools from the outset developed long term strategies for improvement with the goal of significantly improving achievement through these strategies. However, there are no quick fixes and schools recognized that to "really" impact on student achievement will take time. Therefore, while significantly improved student achievement was the project goal, schools generally chose to address organizational arrangements (seven characteristics) in order to establish conditions which would impact on student achievement. Unlike many competency based programs, school effectiveness attempted to treat the "causes" rather than the symptoms of low achievement. In this context monitoring achievement gains was critical, however; each schools program must be evaluated on the basis of both the conditions (strategies) which were put in motion for school improvement as well as assessing achievement over time.

The achievement analyses in this section of the report provides a three-year picture of achievement in the areas of reading and mathematics across 14 schools. The goal of these analyses was to evaluate whether a positive trend in achievement is beginning to occur in schools. The overall evaluation question for these analyses is:

> Are there significant overall changes in achievement in reading and mathematics for low-income and other students?

The achievement results in this section are organized into three parts.

First, an aggregate analyses in reading and mathematics across all 14 schools will be presented. Secondly, the relationship between achievement and school effectiveness implementation and leadership will be explored. Finally, achievement will be assessed on a school-by-school basis to investigate the relationship between school effectiveness activities and achievement.

Aggregating Achievement Data

Norm-referenced standardized test data were gathered in the basic skills areas of reading and mathematics across all grade levels in which each school tests. It is the policy of the school effectiveness program not to impose any additional testing mandates on the schools, therefore only existing standardized test data were used in the evaluation. Using existing testing sources produces considerable variation in the type of test data collected such as:

- A variety of tests are used. Tests may include Iowa Test of Basic Skills, Metropolitan Achievement Test, Stanford Achievement Test, California Achievement Test, and the California Test of Basic Skills.
- A variety of grade levels are tested. Some schools test at every grade level, other at alternate grade levels, and some schools test only at a single grade.
- Tests are administered at different times during the school year. This affects the comparability of the normative data from test to test - some schools test in the fall each year, others in the spring each year and some test in the fall and spring of each year.

All these variations in the testing data underscore the difficulties inherent in state level evaluation which is based on different tests and different testing patterns. Nevertheless, at this time, norm-referenced standardized test data is the only uniform source of achievement data available and must be used. It should be noted that the upcoming state mandated mastery test program in grades 4, 6 and 8 should serve to overcome many of the testing problems because student performance will be measured statewide on the same set of basic skills objectives and items.

Data Collection

Connecticut's definition of school effectiveness and its process for bringing back data to school districts for action planning has directly affected the method of data collection used in this evaluation. Test scores are not collected in this project; rather, the number of students scoring within each decile of the test is collected. Deciles divide the test score scale into ten equal percentile units, e.g., 1st percentile to 10th percentile, 11th percentile to 20th percentile, . . . 91st percentile to 99th percentile (see Appendix C). Therefore, in each school the following achievement data have been collected over time:

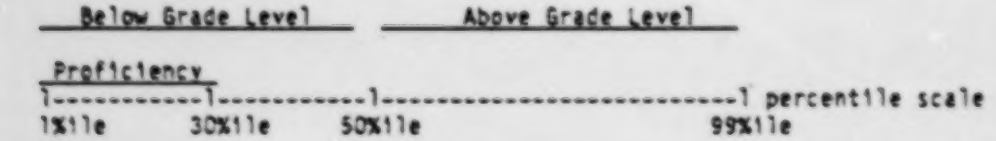
1. norm-referenced standardized achievement test data in reading and mathematics at the grade level(s) in which schools test;
2. socioeconomic status of students classified into two groups, low-income and all "other" children;
3. the number of students (frequency) scoring within each decile of the test.

Establishing Standards

For comparison purposes, three levels of achievement have been created to evaluate student performance: a proficiency standard and a below-grade-level and an above-grade-level cutoff. The proficiency standard identifies the minimum acceptable level of basic skill proficiency on a standardized test and was set at the 30th percentile. Impact of the Connecticut School Effectiveness program is evaluated by examining whether the proportion of low-income students scoring below the 30th percentile has significantly lessened over time and whether the discrepancy between low-income and other students has narrowed over time.*.

*Socioeconomic classification of students were obtained from school records and principal judgements.

To evaluate whether all children (low-income and other) are performing at acceptable basic skill levels, their achievement performance was examined by establishing a cut-off at the 50th percentile. This cut-off was used to assess change in student achievement for low income and other students below and above grade level. The diagram below illustrates the three levels of achievement used in this evaluation.



These achievement levels have been set somewhat arbitrarily for this evaluation. However, these judgements reflect the Department's attempt to operationally define Connecticut's School Effectiveness definition. The proficiency standard, in particular, has been used as a rule of thumb in this project for several years.

Achievement Results

To examine achievement performance, statewide test data have been aggregated across 12 of the 14 participating schools. Two schools have not continued with the program and were not included in the analyses. The method for aggregating test score data across schools is described in Appendix G. To evaluate overall statewide performance, test data were aggregated for the last three years (i.e., SY 1981-1982, SY 1982-1983, and SY 1983-1984). Aggregate achievement results across 12 schools are presented in Graphs 1 and 2 on Page 40. Figure 1 on Pages 38 and 39 has been developed to guide the reader in understanding the types of analyses presented.

Figure 1

INTERPRETING AGGREGATE ACHIEVEMENT DATA

Findings

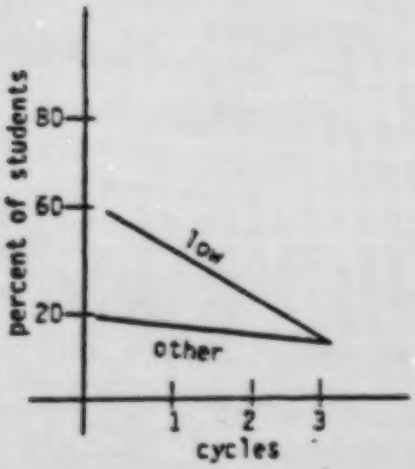
To read the graphic results the following description is necessary.

1. Title - In each content area three separate graphs are illustrated. That is the percent of low income and other income children are charted and compared with respect to examining the percent of students falling below the proficiency standard (30th percentile), percent of students scoring below grade level (50th percentile) and the percent of students scoring above grade level (50th percentile and above). Each graph is titled at the top of the page.

2. Percent of Students - This is the percent of students whose score on a nationally normed standardized test fell within each of the three percentile bands - 1-30th percentile, 1-50th percentile, 51-99th percentile.

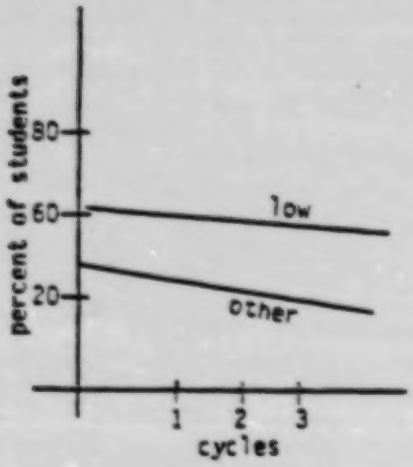
3. Data Cycles - At least three years of achievement data have been collected in all schools. Data cycle one through three represent the longitudinal sequence in which the data has been collected.

The interpretation of the graphs also require some explanation. Keep in mind that the direction of the graphic plot as well as the shape of the graph (shaded portion) form the basis for interpretation. For example:



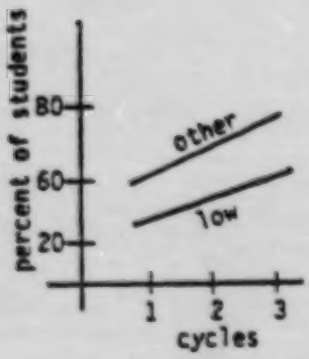
Converging lines pointing downward

1. Percent of students below the Proficiency Standard - The ideal pattern if for the percent of low income students to get progressively smaller over time (Data Cycles 1-3). For other students, the ideal pattern is less predictable, however, in general they should also reduce the percent of students scoring below the cutoff score over time. The ideal pattern is for the low income achievement line to converge with the achievement of other students over time. Thus, the proportion of low income and other students scoring below the proficiency standard would essentially be the same. At the left is a picture of what an ideal graph might look like.



Graphic lines somewhat parallel but pointing downwards.

2. Percent of students below grade level - The ideal pattern is for the percent of low income students to decrease over time. The profile for other students should decrease as well. It is hypothesized that the proportion of low income and other students scoring below this cutoff should decrease at approximately the same rate. The narrowing of the gap between low income and other students should be interpreted as further evidence of program impact. At the left is a picture of what the graph might look like.



Graphic lines pointing up.

3. Percent of students scoring above the 50th percentile - The ideal pattern would be for the percent of low income students to progressively increase over time. The same pattern should also occur with other students. However, research would suggest that the increase in percentage would probably occur at a greater rate with the other income students. Therefore, a very encouraging pattern here would be that low income students and other students would increase their above grade level percentages at approximately the same rate over time (parallel improvement). At the left is a picture of what the ideal graph might look like.

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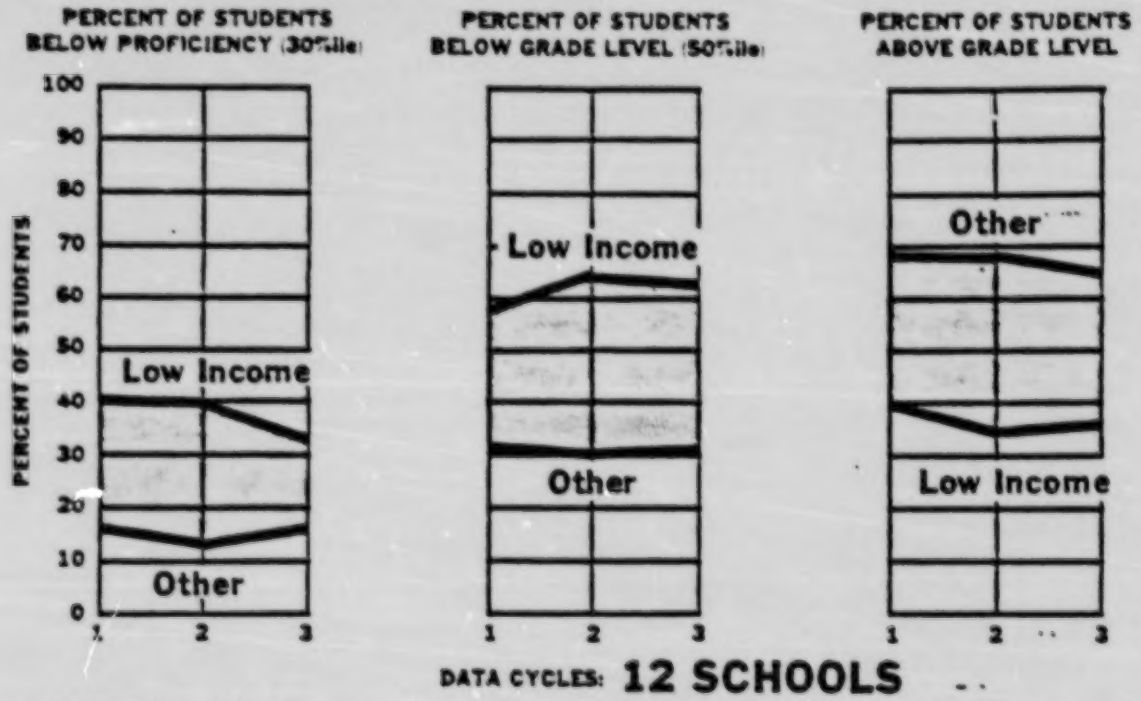
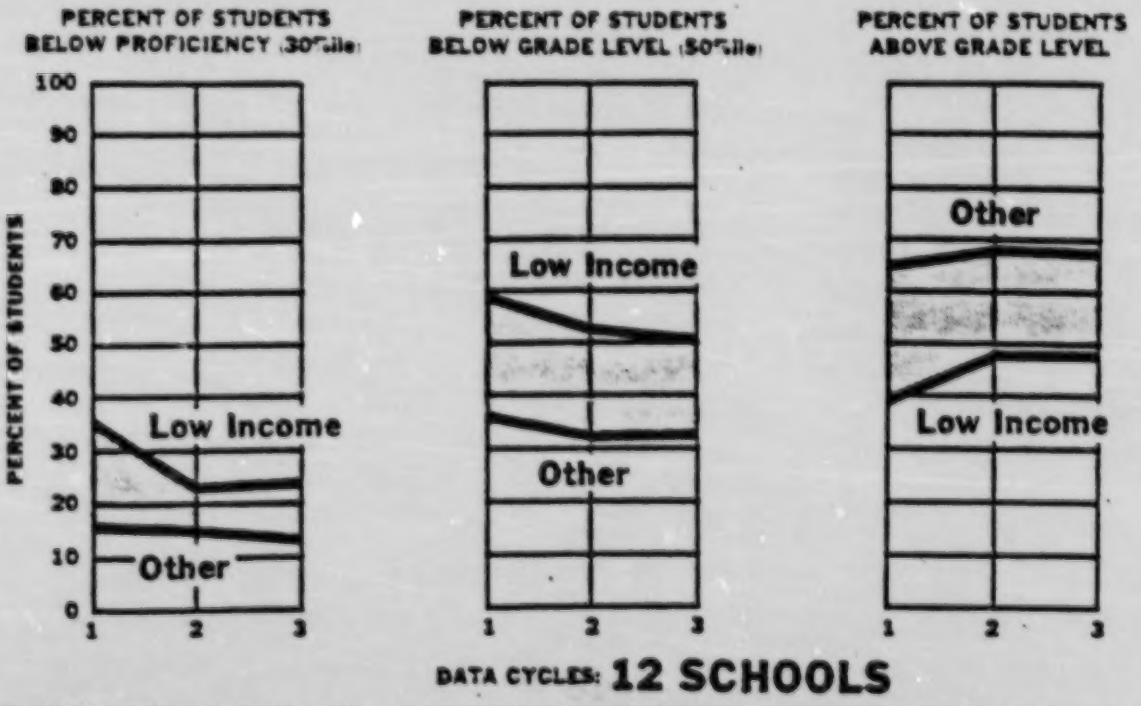
Graph 1

READING RESULTS: Aggregate Summary Over Three Years



Graph 2

MATHEMATICS RESULTS: Aggregate Summary Over Three Years



Achievement Results in Reading

Inspection of Graph 1 reveals that the:

- o proportion of low-income students scoring below the proficiency standard (30th percentile) decreased over time 41 percent (cycle 1) to 33 percent (cycle 3).
- o discrepancy (gap) between low-income and other students around the proficiency standard has narrowed.
- o proportion of low-income students scoring below grade level has slightly increased over time. The percent of other students scoring below grade level remained essentially the same.
- o proportion of low-income students scoring above grade level has slightly decreased over time. The percent of other students scoring above grade level stayed about the same.

Achievement Results in Mathematics

Inspection of Graph 2 presents a somewhat different picture of achievement and reveals that the:

- o proportion of low-income students scoring below the 30th percentile has declined overtime (36 percent to 24 percent).
- o gap between low-income and other students around the proficiency standard has substantially narrowed.
- o proportion of low-income students scoring below grade level has generally decreased. The gap between low income students and other students is also narrowing. The pattern of these scores is encouraging and suggests that the positive mathematics results extend beyond the proficiency standard.
- o proportion of low income students scoring above grade level has generally increased and the gap between the other students has significantly narrowed.

See Appendix H for a statistical analysis of these findings.

Summary

The achievement of low-income students has improved in reading and mathematics. However, the reading pattern is considerably less encouraging; while the percent of low-income students scoring below the 30%ile has been reduced, the overall reading pattern in comparison with other children around the grade-level cutoff shows little growth. To further close the gap, much

more work is apparently needed in this area. The mathematics results show a more positive picture. These results illustrate the goal of school effectiveness -- significant reduction of students below a mastery standard and a narrowing of the gap between low-income and other students.

B. Relationship Between Achievement and Implementation and Between Achievement and Leadership

This section examines two evaluation dimensions that are central to achieving a better understanding of the impact of school effectiveness. First the impact of implementation on achievement will be presented. Second, the impact of leadership on achievement will be investigated. These dimensions are not mutually exclusive and are related; however, for purposes of these analyses they are treated separately. More specifically, two evaluation questions will be addressed:

1. What is the effect of implementation of the school effectiveness program on the achievement of low-income students?
2. What is the effect of leadership on the achievement of low-income students?

The same method for aggregating achievement data in section two of this report will be employed here (see Appendix H).

Implementation of school effectiveness is a very difficult concept to measure. As described in the previous section, there is considerable variation in the way schools implement school effectiveness programs.

To examine the implementation question, the qualitative case study data was used to classify schools into two categories (a) moderate implementation, and (b) high implementation. In addition, a practice profile was developed to assess the implementation of each school's action plan.* These data were also used in classifying schools with regard to implementation (see Appendix E).

*The practice profile was adopted from the work of Sue Loucks and is an outgrowth of work done on the Innovative Configuration developed at the University of Texas.

Six schools, on the basis of these data, were classified as having high implementation, five schools were classified as having moderate implementation and three schools did not continue with the program and were not included in the analyses.

Leadership was determined by examining the school faculty's perception of their principal's leadership on Connecticut's School Effectiveness Questionnaire. Leadership on this scale primarily measures principal behavior with respect to instructional issues. The instructional leadership mean scale scores were rank ordered; the top five schools designated as schools that have high leadership and the remaining seven schools were designated as schools with average leadership. It should be pointed out that the schools designated as having average leadership are <u>not</u> lacking leadership. It is possible that if other leadership instruments were used that the rankings of principals may differ.

<u>Findings</u>

Graphs 3 through 6 present the achievement analyses based on the implementation index. Graphs 7 through 10 present the achievement based on the leadership rankings.

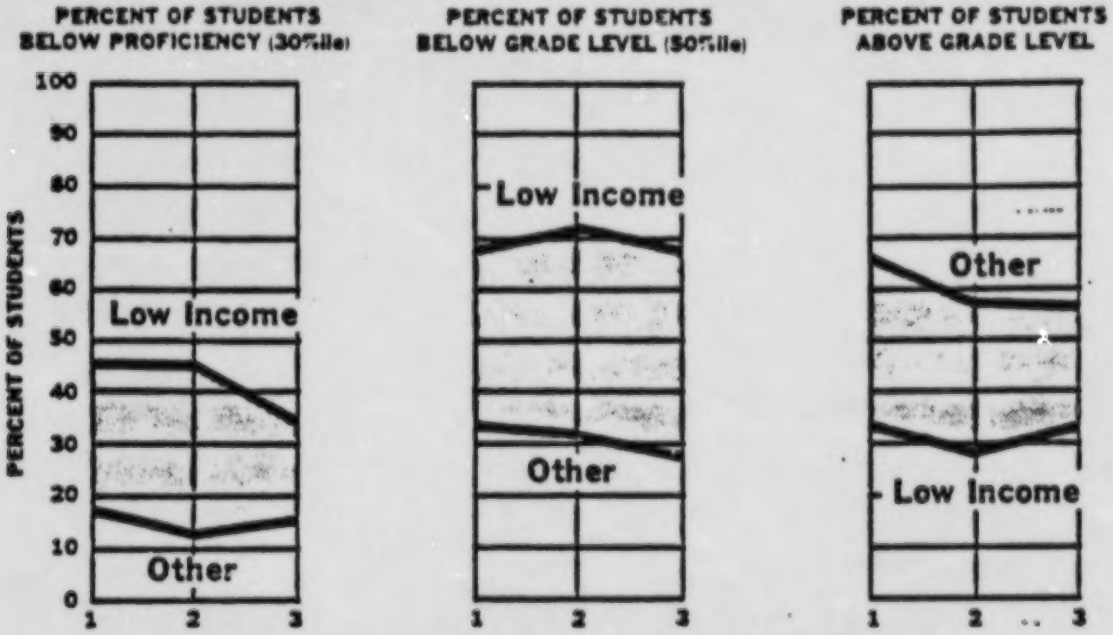
<u>Implementation Highlights</u>

<u>Reading</u>

- The reading performance for moderate implementers of school effectiveness show some decline in the proportion of low-income students scoring below the proficiency standard (about 10%) but the gap between low-income and other students remains wide.
- The reading performance for high implementers of school effectiveness shows little change in reading performance for both low-income and other students, although in these schools the percent of students scoring below the proficiency standard is considerably lower than the moderate implementation schools.

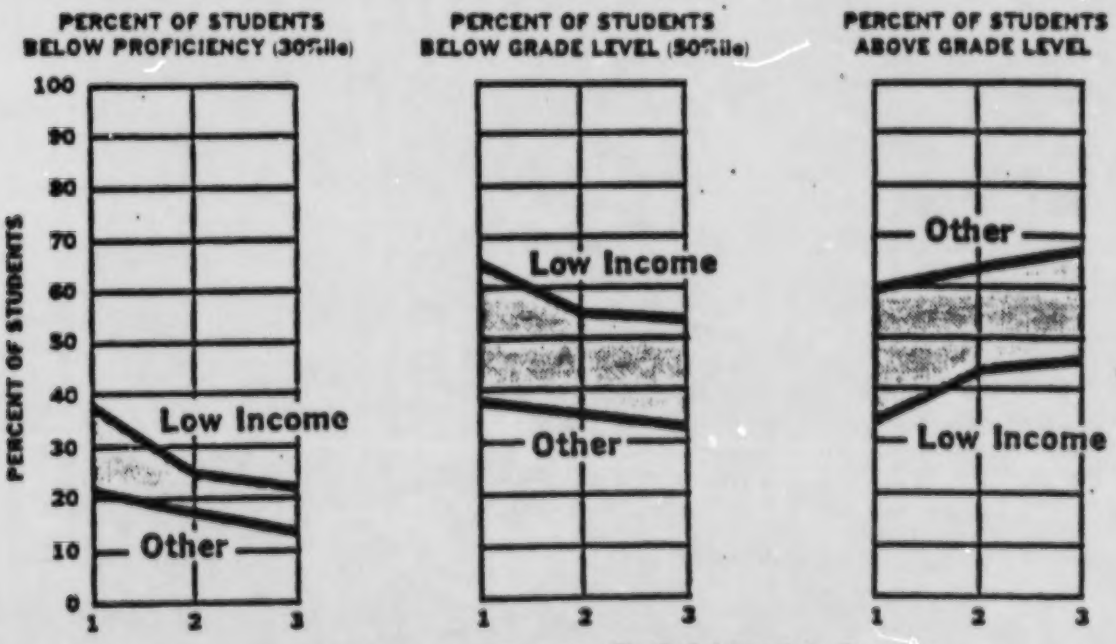
Graph 3

READING: The Relationship Between Moderate Implementation and Achievemer



Graph 4

MATHEMATICS:
The Relationship Between Moderate Implementation and Achievement



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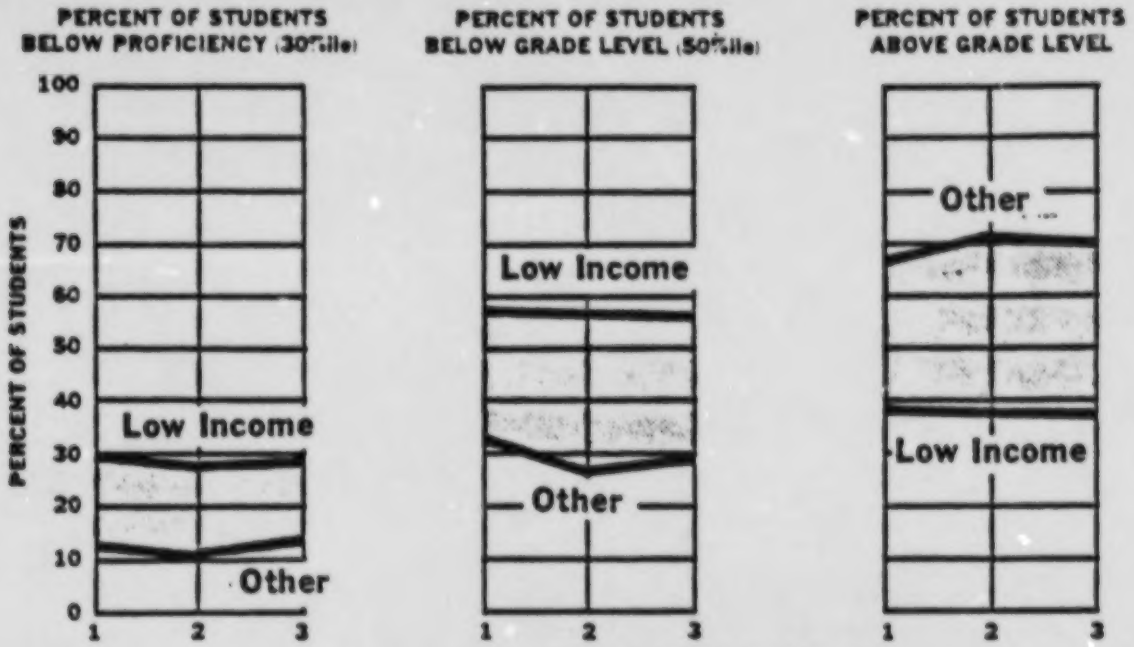
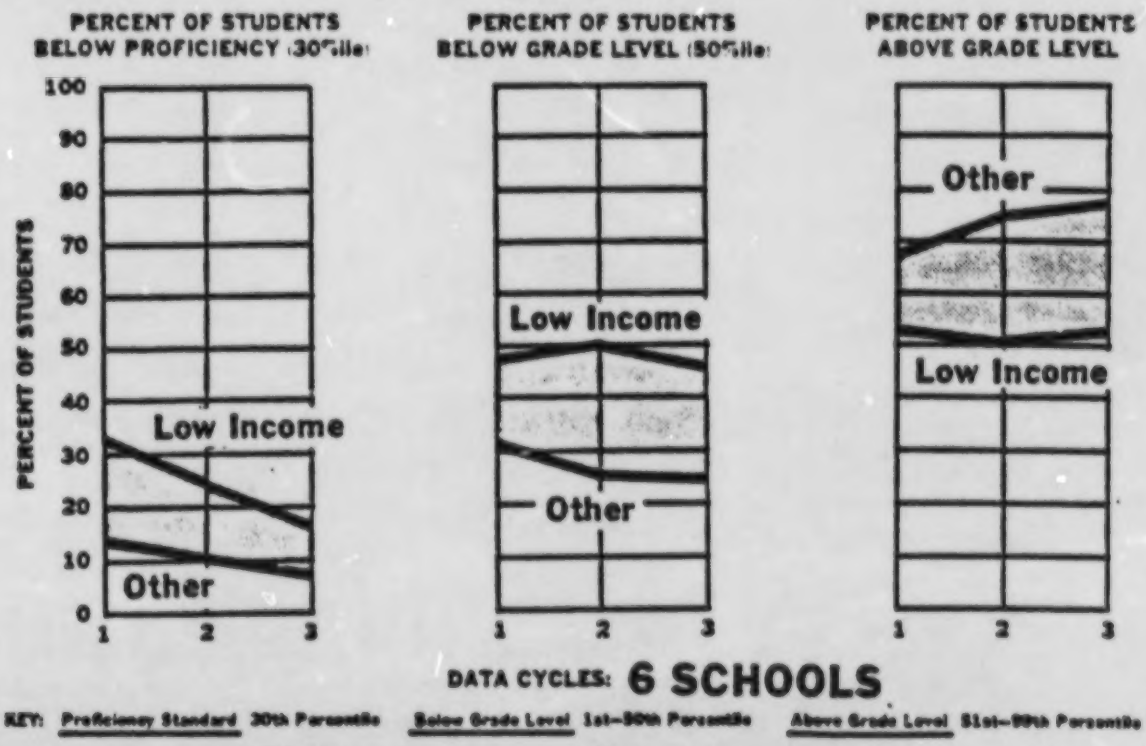
Graph 5

READING: The Relationship Between High Implementation and Achievement



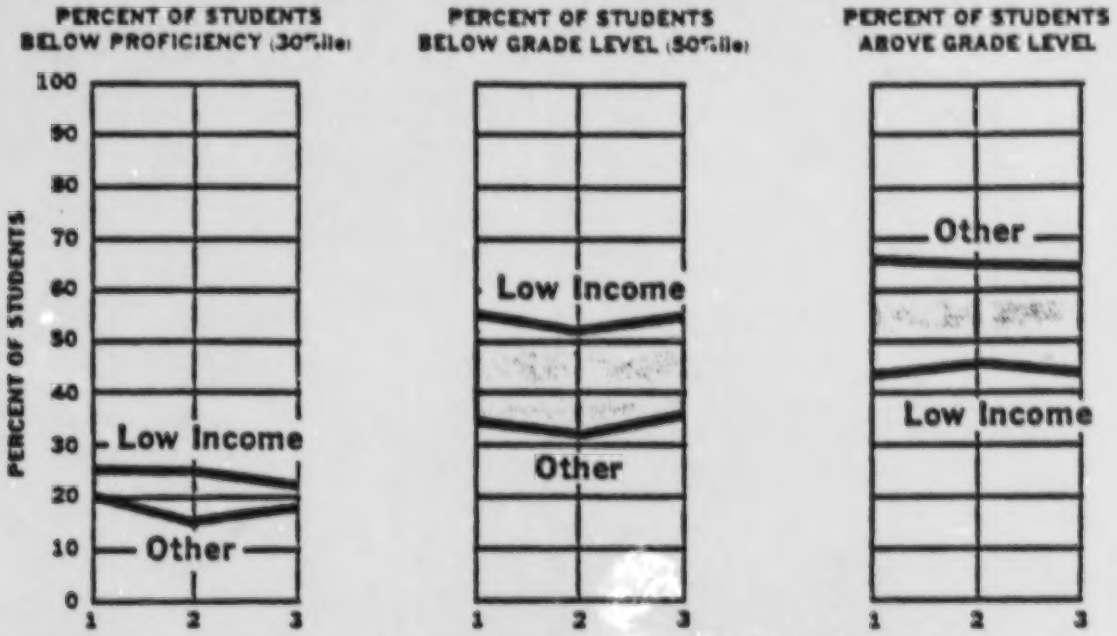
Graph 6

MATHEMATICS: The Relationship Between High Implementation and Achievement



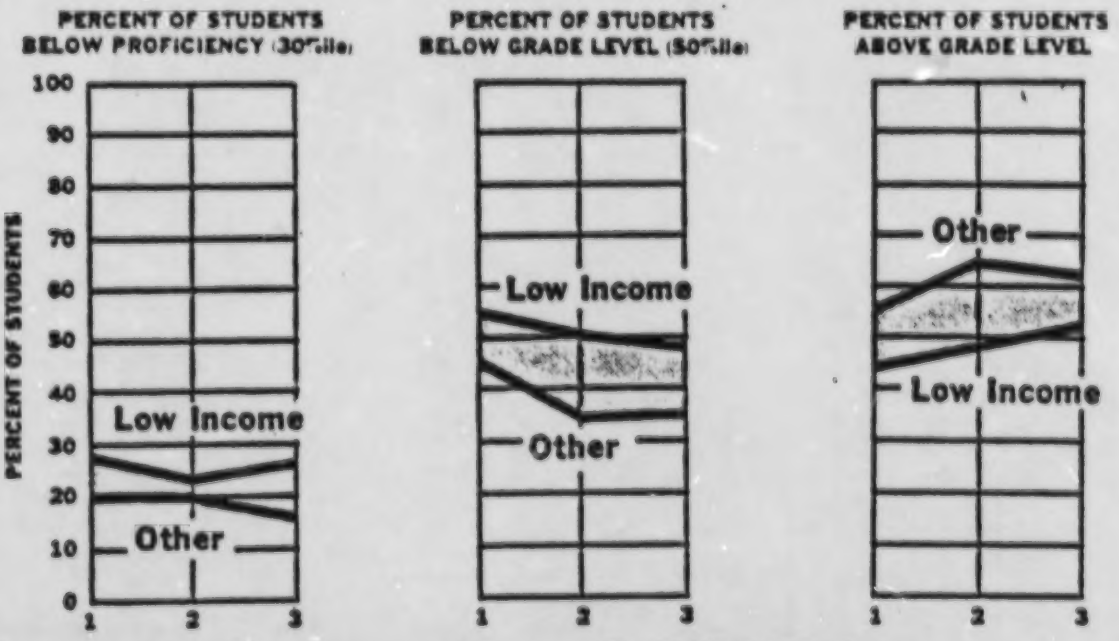
Graph 7

READING: The Relationship Between Average Leadership and Achievement



Graph 8

MATHEMATICS: The Relationship Between Average Leadership and Achievement



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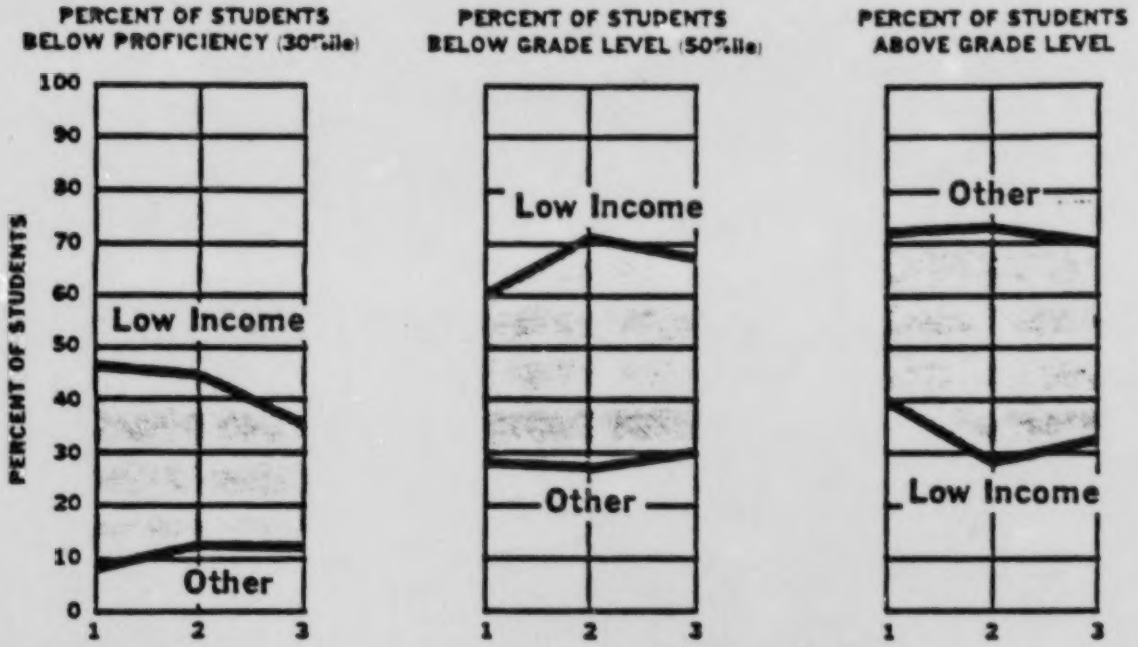
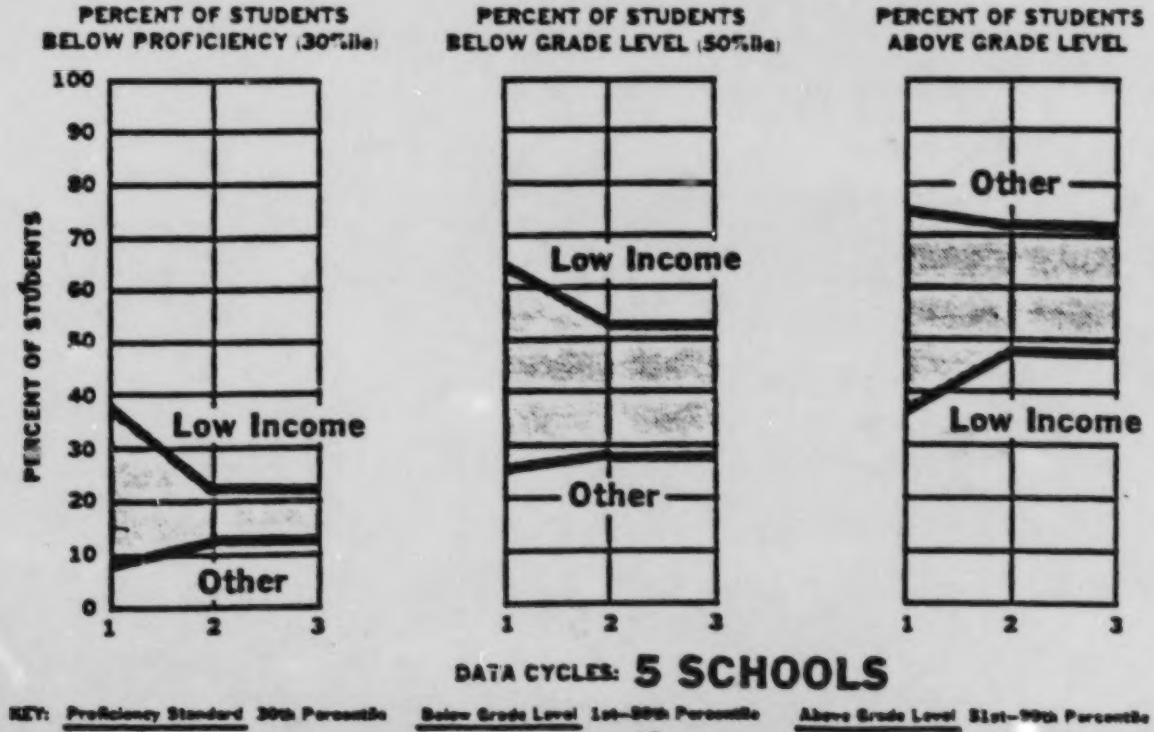
Graph 9

READING: The Relationship Between High Leadership and Achievement



Graph 10

MATHEMATICS: The Relationship Between High Leadership and Achievement



Mathematics

- The mathematics performance for moderate implementers of school effectiveness is very similar to the overall mathematics findings. The percent of low-achieving students scoring below the proficiency standard has been considerably reduced. Inspection of the below and above grade level comparisons are encouraging; i.e., a reduction in the proportion of low-income students scoring below grade level and an increase in the proportion of students scoring above grade level.

- The mathematics performance for high implementers of school effectiveness is also positive - a lowering of the proportion of low income students below proficiency and an increase of low-income students scoring above grade level.

Leadership Highlights

Reading

- The reading performance of average leadership schools showed little change over the three years. The proportion of low-income students scoring below the proficiency standard remained about the same, the gap between low-income and other students was essentially the same and the proportion of low-income students scoring below and above grade level changed slightly.

- The reading performance of high leadership schools generally paralleled the aggregate findings (Graph 1). That is, some reduction (approximately 9%) in the proportion of low-income students scoring below the proficiency standard and some narrowing of the gap between low-income and other students although the gap remains wide.

Mathematics

- The mathematics performance of average leadership schools shows little change in the proportion of low-income students scoring below the proficiency standard. However, the proportion of low-income students scoring below grade level has been reduced and those students scoring above grade level has been increased which is an encouraging trend.

- The mathematics performance of high leadership schools is more definitive. The proportion of low-income students scoring below the proficiency standards has decreased and the gap between low-income and other students is closing. The below and above grade level comparison seems to reinforce this positive trend.

See Appendix H for a statistical analysis of the implementation and leadership findings.

Summary

The schools which have been rated as high implementation schools and the schools rated as moderate implementation schools have somewhat contradictory patterns. In reading, the schools rated as moderate show a greater decrease over time in the percent of students scoring below the proficiency standard than the high implementation schools. In mathematics, both sets of data patterns between moderate and high implementers are moving in the desired directions.

The analyses of achievement on the basis of the leadership category was more conclusive. In both reading and mathematics, the high leadership schools showed the most progress. The proportion of low income students scoring below the 30th percentile in both reading and mathematics was reduced in the high leadership schools.

The perception of a school faculty with respect to a principal's instructional leadership appears to be related to student achievement. This finding is quite consistent with the school effectiveness research which has singled out the principal as a critical factor in promoting achievement in the basic skills.

These results seem to suggest that implementation has less influence on achievement than does leadership. On closer examination, these results are less definitive. Two schools rated as high leadership schools by their faculty were rated as moderate implementation schools. In both schools the most amount of progress in reading and mathematics was achieved. School effectiveness in both schools operated as a framework for school reform but

in both schools other instructional initiatives were launched in conjunction with school effectiveness to address basic skill problems in these schools.

In summary, the complexity of the schools' organization makes the isolation of program factors and the determination of relationships a complex undertaking. Apparently, to obtain a better assessment of the relationship between implementation and achievement, the influence of other program initiatives by the school or the school district must be taken into account.

C. School-by-School Analyses

Assessing how all the school effectiveness pieces fit is analogous to putting together a jigsaw puzzle with some missing pieces. Examining the school effectiveness data provides a picture of achievement and a description of the activities schools engaged in with respect to the school effectiveness effort. What is missing and not incorporated in this study is the influence of school district initiatives regarding basic skill improvement and the impact of the state focus on basic skills over the last five years. These factors and others could affect the overall achievement of schools. To complete the achievement picture an assessment of all relevant information about the school including an assessment of instructional effectiveness is needed. Therefore, the goal of the achievement analyses is to identify and examine relationships that might exist between school effectiveness practices and student achievement.

One evaluation question generally summarizes the school-by-school analysis:

> What is the relationship among school effectiveness characteristics, achievement outcomes, and case study findings?

To better examine this question, individual school profiles have been developed. The same method of analysis used for the aggregate analysis has been used to profile individual schools. In addition to the achievement profiles in reading and mathematics, a listing of the schools' action plans, performance on the Connecticut School Effectiveness Questionnaire, and a description of school effectiveness activities by characteristic has also been illustrated. The portrayal of the individual school results are included in the addendum to this report for review. Examining all these data in context provides a picture of each school's achievement in relationship to its school effectiveness strategies.

Table 9 attempts to pull together individual school findings of the 14 schools with respect to the level of implementation of the school effectiveness program, the leadership rating of the principal, the change in the seven school effectiveness characteristics over time and the reading and mathematics performance of students in each school.

Highlights

Inspection of Table 9 suggests that:

- High implementation and high leadership schools (A, E, K) showed the most change on the school effectiveness characteristics (three or more characteristics were significant).
- Student achievement in high implementation and high leadership schools (A, E, K) was positive. In reading, the achievement was rated: good (1 school), to excellent (2 schools). In mathematics, the achievement was rated excellent (3 schools).
- Student achievement in two schools (B, F) with moderate implementation and high leadership was also good. One school (B) was rated good in reading and both schools (B, F) were rated excellent in mathematics.

Table 9

The Relationship Between Student Achievement, School Effectiveness Characteristics, Implementation and Principal Leadership

School[a]	Implement. Index[b]	Significant Characteristics[c]	Leadership Rating[d]	Reading Trend[e]	Math Trend[e]
A	High	Safe Mission Leader High Expectation Monitor Home	High	Excellent	Excellent
B	Moderate	Mission Monitoring Home	High	Good	Excellent
C	Moderate	Opportunity to Learn Safe and Orderly	Average	Fair	Good
D	Moderate	Learn Mission Home	Average	Fair	Poor
E	High	Mission Leader Monitoring	High	Good	Excellent
F*	Moderate	Monitoring	High	Excellent	Excellent
G	High	No pre/post	Average	Fair	Excellent
H	High	No pre/post	Average	Good	Excellent
I	High	No pre/post	Average	Fair	Poor
J	Moderate	No pre/post	Average	Fair	Excellent
K*	High	Mission Leader Home	High	Excellent	Excellent
L	Low	Home	Average	Excellent	Poor
M	Low	Mission	NA Home	Poor	Good
N	Low		NA	NA	NA

KEY

[a]school - letters correspond with individual profiles in Appendix A.

[b]implementation index - derived from qualitative study.

[c]significant characteristics - based on the pretest/posttest analyses of Connecticut Questionnaire.

[d]leadership rating - based on Connecticut Questionnaire.

[e]reading/math trends - based on a qualitative assessment of the achievement analyses over time.

- excellent - reduction in the percent of low income students scoring below the proficiency standard and a significant reduction in the discrepancy between low income and other students.

- good - reduction in the percent of low income students scoring below the proficiency standard but no consistent reduction in the discrepancy between low income and other children over time.

- fair - little to no change in the percent of low income students scoring below the proficiency standard and almost no change in the gap between these groups.

- poor - an increase in the proportion of students scoring below the 30th percentile is evident and the gap between low income and other students has either stayed the same or widened.

*School F has only low income students.
*School K has only "other" income students.

- Three schools (G, H, I) rated as having high implementation and average leadership and had somewhat mixed achievement results. Reading achievement was rated from fair (2 schools) to good (1 school). Mathematics had a somewhat more positive pattern; 1 school was rated poor and 2 schools were rated excellent.

- Schools rated as having moderate implementation and average leadership (C, D, J) were rated fair in reading and had mixed results in mathematics. In mathematics, one school was rated poor, one school was rated good and one school was rated excellent.

- Schools rated as having low implementation had generally fair to poor results in reading and poor to good results in mathematics.

- Generally, all districts reported the mean achievement in the schools is rising in reading and mathematics over time.

Summary

The data presented in Table 9 illustrates some of the frustration and complexity with attempting to link achievement data to our understandings of what a school may or may not have accomplished in school effectiveness. School performance is more than the sum total of school effectiveness activities in a school. For example, a school may have had low implementation with regard to school effectiveness but high implementation on other projects (such as a special project in reading and/or mathematics, e.g., School F) that might account for achievement gains. Additionally, attention to basic skill achievement has been a state focus over the last five years through the EERA program. EERA data is quite consistent with our overall findings that considerable growth has occurred in the area of mathematics. Moreover, staff development in the area of mathematics has been a high priority in the state over time.

What is encouraging about these data is that schools which have progressed the most in the school effectiveness program appear to exhibit a greater degree of achievement for low income students than less involved schools. It seems reasonable to hypothesize that school effectiveness program in some schools has had an influence on school achievement.

VII. OVERALL SUMMARY AND CONCLUSIONS

The following highlights summarize what we have learned as a result of this evaluation:

- Changes are more likely to occur in areas such as, clear school mission, home/school partnerships, monitoring student progress, school safety and leadership.

- Changes seem less likely to occur in areas addressing particular teaching techniques and other classroom practices. The implication is that instructional changes may require more focussed and intensive staff development and may take longer to accomplish.

- A single school can influence and set into motion districtwide policies and procedures for district-wide school effectiveness efforts. In five districts, school effectiveness adoption in one school led to school effectiveness adoption in several schools with accompanying district and board commitment.

- The Connecticut assessment process and action planning institutes establish clear and valuable boundaries for the direction of school effectiveness efforts Without exception, the assessment and action planning phases solidified the commitment from those who were already supportive and helped to enlist the more active involvement and support from those teachers who were equivocal about the school effectiveness effort.

- More effective communication as a staff goal is obviously crucial to the development of collegiality. However, when communication becomes the goal rather than the means to accomplish the goal, the emphasis of the school improvement efforts are compromised.

- Volunteerism is a central theme in Connecticut's project. Volunteerism has its advantages and disadvantages. On the plus side, volunteerism:
  - Helps build collegiality. In almost all our schools, teachers have gained a voice in the decision-making of the school.
  - Helps to establish program continuity and renewal.

On the minus side:

- Some of the most needy schools which have some of the most needy students do not volunteer.

- Accountability for program outcomes is more difficult to establish.

- In mathematics the proportion of low-income students scoring below the 30th percentile has decreased from 36 percent to 24 percent. Also, the discrepancy between the proportion of low-income students achieving minimum proficiency (30th percentile) and the proportion of all other students achieving minimum proficiency has narrowed from 19 percentage points to 10 percentage points.

- In reading, the proportion of low-income students scoring below the 30th percentile went from 41 percent to 32 percent. The discrepancy between the proportion of low-income students achieving minimum proficiency (30th percentile) and the proportion of all other students achieving minimum proficiency has narrowed from 25 percentage points to 17 percentage points.

- What is encouraging about the achievement data is that schools that demonstrate the greatest achievement gains also were the schools which showed the most progress in the school effectiveness program. Less involved schools generally did much more poorly.

The findings are a story of contrasts. There is support for the ideas that teachers and principals can make focused school changes and these changes will be accompanied by higher student achievement for low income children.

There is harmony in some schools where everything improves -- achievement, the presence of the characteristics, and the internal capacity for self renewal among the staff. But there is dissonance in other schools, -- achievement may go up for one group and down for another. The characteristics which improve may not be the ones which were given the most attention.

There is certainty about some factors -- the importance of the principal's behavior and commitment and the importance of the beginning assessment and action planning phases. But there is ambiguity about other factors -- the role of the state facilitator, the availability of resources for staff development, the nature and extent of district office support and the effect of volunteerism.

School effectiveness has a strong presence in many schools, and less of a presence in others. Whether effective or not in addressing the goals of the school staff and the state developers, the program tends to shift in and out of prominence in a school because it depends upon the stance of the principal, the involvement of teachers, the importance of competing projects, the support of the district administration, and the skill, resourcefulness and time commitment of the state facilitator.

Throughout the participating schools, there has been little suggestion that the program is a bad idea or on the wrong track. Where it has been tried, it is more likely that school faculty will complain that the program lacks the resources to fulfill its promises. Where it has been successful, it is usually because someone or some group within the school district had been strong enough to make it happen: a district administrator who volunteered a school and then shepherded it through; a principal; the state facilitator who helped guide the school along the path of improvement. Where the program had been least successful, it was usually because no one took the time or had the skills to help it develop. Neither school site personnel, district personnel, nor the state facilitator devoted the time to make it work.

Schools can change and School Effectiveness provides the opportunity for change. Schools can improve if efforts are purposeful, practices are guided by research findings, and there is support with district and state resources. But change takes time, hard work and commitment.

VIII. POLICY IMPLICATIONS AND RECOMMENDATIONS

The Connecticut School Effectiveness Program has been an experiment - an experiment in new roles for Department staff and in new collaboratives within the Department and between and among districts and schools. The program never enjoyed (nor was burdened by) the inherent accountability factors common to most Department initiatives - no school was obliged to participate, no monies were awarded to participating schools and no preconceived outcomes were required. The School Effectiveness Process is still evolving. Evaluation information can and should be used for policy formulation and decision making; it is hoped that the implications of the findings and the following recommendations will inspire and stimulate dialogue about the future of this unique program.

Recommendation 1: Criteria for Participation

School Effectiveness was intended primarily for schools which serve large numbers of low-income children. However, the most needy schools do not always volunteer. Moreover, little attention has been paid to the low income criterion as virtually all schools who asked to participate were selected.

It is recommended that more stringent criteria for participation be developed and adhered to in order to focus resources in the most needy schools.

Recommendation 2: Facilitator Role

The facilitator role is clearly defined and practiced at the dialogue and initiation stage, at the needs assessment phase and through the institute and action-planning phase. The role becomes less clearly defined and ranges from extensive intervention to hands off as teachers and principals move toward implementing their action plans and evaluating their progress.

It is recommended that the facilitator role be fully developed and extended throughout the process and that training be provided for consultants who assume this role.

Recommendation 3: Instructional Focus

In schools where the characteristics are present to a high degree, there is present also the readiness and confidence among the staff to become more effective teachers. However, in most cases, extensive and elaborate technical assistance is needed - assistance far beyond the facilitator role. Furthermore, in most participating schools there has been a lack of attention to instruction as a specific goal of the School Effectiveness process.

It is recommended that ongoing technical assistance be made available to help teachers improve their instructional effectiveness.

Recommendation 4: Validation/Recognition

Several schools have been participating in the program for as long as three years. At present, there are no procedures for reward and recognition for schools which have attained effectiveness status.

It is recommended that a two-phase process of validation/recognition be established:

A. Phase I - Validation/recognition criteria would emphasize the process of renewal and reform with attention to:

   a. Evidence of shared decision-making, collegiality, and an internal capacity for self-assessment, data-based planning and the accomplishment of objectives.

   b. Evidence of the presence to a high degree of the seven characteristics of effective schools.

B. Phase II - Validation/recognition criteria would emphasize

instructional outcomes and instructional effectiveness based upon the Department's definition of an effective school: a school that brings children from low-income families to the minimum basic skills mastery level which now describes minimally successful performance for middle-income children.

It is recommended further that resources be made available to schools to help them progress from Phase I to Phase II status.

Recommendation 5: Review of Instructional Practices in Reading

The evaluation results suggest that the discrepancy in reading achievement between low-income and all other children is wide and that reading scores for low-income students are significantly lower than scores for all other children.

It is recommended that the nature of reading instruction in the state be reviewed and that state leadership be provided to target improved reading instruction to low-achieving students.

Recommendation 6: Subgroup Data Analyses

Statewide mastery testing will make a contribution to the monitoring of student progress at the state, district, school and classroom levels. However, in order to determine whether or not all students are learning, data must be collected and analyzed for subgroups of students. In the School Effectiveness Program, manual techniques are used to analyze achievement scores for low income children and for all other children. Data may be analyzed for other subgroups such as girls and boys, blacks, hispanics and other ethnic groups, and students in special programs such as Chapter I. Each school district has its unique set of subgroups of students for whom subgroup analyses may apply.

It is recommended that the Department develop the technical procedures to allow each district and school to analyze mastery test data for particular subgroups. The Department would develop the system and provide technical assistance. The district and school would designate the appropriate subgroups.

Recommendation 7: Assessment of Organizational Structure

School effectiveness has no legislative mandate and no clear status within the priorities set by Connecticut's Challenge.

It is recommended that the Department examine the policies, allocation of resources, management functions, and future directions for school effectiveness.

Recommendation 8: Department Impact

School effectiveness ideas are alive and well and the research base continues to grow. The ideas loom larger than any one program and, in fact, have been extended and expanded in many of the Department's new initiatives.

It is recommended that the Department promote collaboration and integration among:

district-focused improvement (mastery testing, priority school districts);

school-focused improvement (effective schools); and

classroom-focused improvement (curriculum and instruction, staff development).

Each focus and contribution may be unique but it is the combined effects of district, school and classroom improvement that will have the greatest impact on Connecticut students.

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Appendix

Connecticut School Effectiveness Interview

SAMPLE ITEMS

SAFE AND ORDERLY ENVIRONMENT

There is an orderly, purposeful atmosphere which is free from the threat of physical harm. However, the atmosphere is not oppressive and is conducive to teaching and learning.

Is this school a safe and secure place to work?

The school is not safe and secure. Fear and concern for physical safety are present.	There is a general feeling of insecurity. It is not safe to be alone in the building and numerous incidents occur.	The school is secure from outside interference. There are occasional incidents that heighten concern throughout the building.	There are some internal student related problems. However, adults and students generally feel secure.	This is a secure building. Students and staff do not view security as an issue.

CLEAR SCHOOL MISSION

There is a clearly-articulated mission for the school through which the staff shares an understanding of and a commitment to instructional goals, priorities, assessment procedures and accountability.

Is there a written statement of purpose for this school that guides the instructional program?

There is no agreed upon, written statement of purpose.	A written statement exists, but it has little influence on the instructional program.	A statement of purpose has been developed by administration and faculty of this school A few general instructional decisions are guided by this statement.	A statement exists and some school decisions result from it.	The statement is the driving force behind most important school decisions.

Describe how time allotments in basic skill areas are determined in this school.

Individual teachers determine their own schedules.	General guidelines are handed down by the administration. Teachers develop schedules in partial compliance.	The principal develops a general schedule. Recommended time allotments are generally followed.	The principal and teachers agree on allocated times. Schedules are reviewed, monitored and/or adjusted if necessary.	Allocated time in each basic skill areas is set with or by the principal. Teachers and principal value and monitor these time allotments.

FREQUENT MONITORING OF STUDENT PROGRESS

Feedback on student academic progress is frequently obtained. Multiple assessment methods such as teacher-made tests, samples of students' work, mastery skills checklists, criterium-referenced tests and norm-referenced tests are used. The results of testing are used to improve individual student performance and also to improve the instructional program.

How do you use the information obtained from skill tests, unit tests and/or chapter tests in the basic skills in your classroom?

Information is used primarily to give students grades.	Information is used for grading and making groups. There is little individual feedback beyond grades.	Information is used for grading and to plan general classroom lessons. The information is not used to modify instruction.	Information is used to plan lessons for classroom groups and to give general feedback. Instruction is somewhat modified based on results.	Information is used to give specific student feedback and to diagnose and prescribe appropriate instruction.

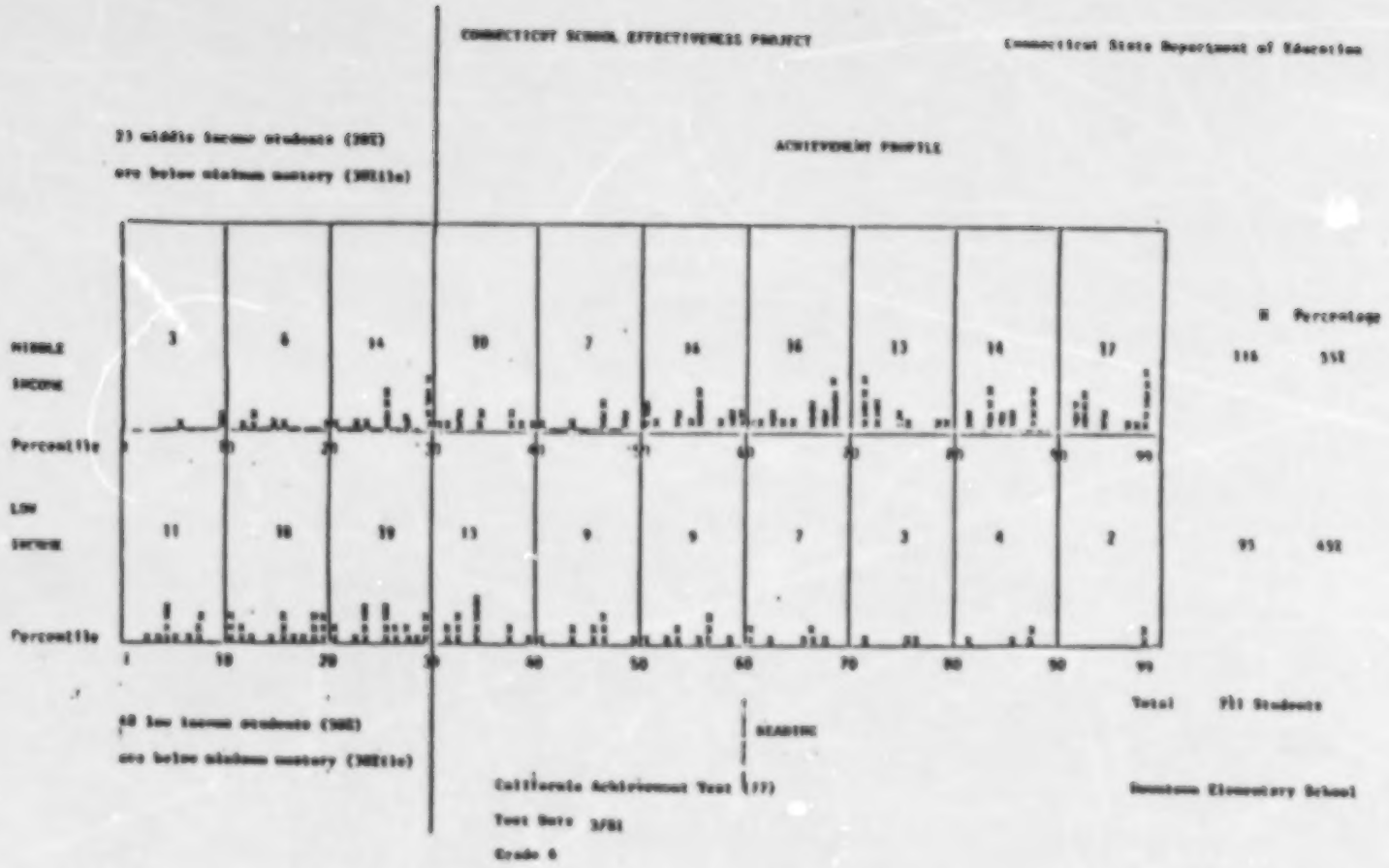
Appendix B

Connecticut School

Effectiveness Questionnaire

SAMPLE ITEMS

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1. SAFE AND ORDERLY ENVIRONMENT					
Teachers, administrators and parents assume responsibility for discipline in this school.....	SD	D	U	A	SA
2. CLEAR SCHOOL MISSION					
In mathematics, written sequential objectives exist up through all grades.....	SD	D	U	A	SA
3. INSTRUCTIONAL LEADERSHIP					
The principal leads frequent formal discussion concerning instruction and student achievement.....	SD	D	U	A	SA
4. HIGH EXPECTATIONS					
Ninety to one hundred percent of the students are expected to master all basic skills at each grade level.....	SD	D	U	A	SA
5. OPPORTUNITY TO LEARN AND STUDENT TIME ON TASK					
Two hours or more are allocated for reading/language arts each day throughout this school.....	SD	D	U	A	SA
6. FREQUENT MONITORING OF STUDENT PROGRESS					
Teachers and the principal thoroughly review and analyze test results to plan instructional program modifications...	SD	D	U	A	SA
7. HOME SCHOOL RELATIONS					
Most parents understand and promote the schools' instructional program.....	SD	D	U	A	SA


CONNECTICUT SCHOOL EFFECTIVENESS PROJECT
Connecticut State Department of Education
23 middle income students (30%)
are below minimum mastery (30%ile)
ACHIEVEMENT PROFILE
MIDDLE INCOME
Percentile
LOW INCOME
Percentile
3
6
14
10
7
16
16
13
14
17
11
10
19
13
9
9
7
3
4
2
1
10
20
30
40
50
60
70
80
90
99
N
Percentage
116
35%
95
45%
Total
211 Students
60 low income students (58%)
are below minimum mastery (30%ile)
READING
Californio Achievement Test (77)
Test Date 3/81
Grade 6
Downtown Elementary School

Appendix C

Appendix D Sample

THE CONNECTICUT ARCHIVAL DATA PROFILE

Principal: _____ Building: _____

Date: _____ District: _____

	DISTRICT	BUILDING	COMMENTS
I Safe and Orderly Environment			
1. Discipline Policy			
2. Infraction Data			
3. Vandalism Data			
II Clear School Mission			
1. Statement of Purpose			
2. Written, Sequential Objectives			
3. Mastery Requirements			
III Instructional Leadership			
1. Formal Observation Format			
2. Instructional Planning Guidelines			
3. Staff Development Program			
IV High Expectations			
1. Promotion and Retention Policy			
2. Retention Data			
3. Grouping Practices			
4. Student Performance Reward System			
V Opportunity to Learn and Student Time on Task			
1. Allocated Times for Instruction			
2. Student Attendance Data			
3. Staff Attendance Data			

CONNECTICUT SCHOOL EFFECTIVENESS PROJECT SAMPLE

Qualitative Assessment of School Effectiveness Practices

Profile

Component 1: Assessment of School Need

(3)	(2)	(1)
The achievement profile information (SES break) and the information from the interview and questionnaire instruments were all key factors in determining the areas needing improvement in the school.	One of the sets of information (the achievement profile or the data from the instruments) provided the impetus for diagnosis of need.	Diagnosis of need for improvement was based on a need perceived by the staff which didn't directly relate to the characteristics or to student achievement.

Component 2: Action Plan Development

(3)	(2)	(1)
The planning team developed a plan of action for the one or more areas judged by the staff as the most critical needs and specified a time-line and steps for action.	The action planning team identified priorities for the areas judged by the staff as the most critical needs but did not specify steps for action.	The plan developed by the team focused on an area that did not directly address any of the seven characteristics.

Component 3: Awareness of Action Plan

a) Awareness

(3)	(2)	(1)
The team presented their plan to the faculty; nearly all of the staff members can state the goals of the plan.	The team made a presentation to the faculty, but about half of the staff members can not state the goals.	No presentation was made to the faculty, and most staff members can not state the goals.

Developed by: Nancy Sailer, Raymond Pecheone

APPENDIX F

TABLE 1

SAFE AND ORDERLY ENVIRONMENT

Time 1 and 2 School Means, Variances and t Values[a]

School	Time	N	Mean	SD	t
A	1	28	3.72	.42	4.90**
	2	24	4.29	.42	
B	1	39	3.44	.62	.06
	2	38	3.45	.64	
C	1	29	3.85	.42	2.42**
	2	20	4.12	.33	
D	1	21	3.66	.61	1.52
	2	21	3.97	.68	
E	1	23	3.63	.50	1.50
	2	18	3.86	.45	
F	1	55	3.05	.63	.60
	2	42	2.97	.58	
K	1	23	4.08	.42	2.01*
	2	22	4.32	.39	
L	1	28	2.99	.74	.38
	2	22	3.07	.69	
M	1	60	3.21	.62	.54
	2	53	3.27	.51	
N	1	29	3.16	.68	.72
	2	31	3.27	.53	

[a]Connecticut School Effectiveness Questionnaire

Number of Items - 10
Alpha Internal Consistency - .87
Test-Retest - .85

* $p \leq .10$
** $p \leq .05$

TABLE 2

CLEAR SCHOOL MISSION

Time 1 and 2 School Means, Variances and t Values[a]

School	Time	N	Mean	SD	t
A	1	28	3.68	.30	8.31**
	2	24	4.46	.37	
B	1	37	3.58	.41	2.83**
	2	38	3.86	.42	
C	1	29	3.98	.50	1.65
	2	20	4.20	.41	
D	1	21	3.90	.53	2.13**
	2	21	4.24	.51	
E	1	23	3.99	.28	2.17**
	2	18	4.19	.30	
F	1	55	3.80	.55	.26
	2	42	3.77	.49	
K	1	23	3.56	.39	2.48**
	2	22	3.92	.57	
L	1	28	3.41	.67	.28
	2	22	3.47	.72	
M	1	60	2.89	.67	3.26**
	2	53	3.28	.58	
N	1	29	3.16	.67	.72
	2	31	3.27	.53	

[a]Connecticut School Effectiveness Questionnaire

Number of Items - 14
Alpha Internal Consistency - .90
Test-Retest - .90

* $p \leq .10$
** $p \leq .05$

TABLE 3

INSTRUCTIONAL LEADERSHIP

Time 1 and 2 School Means, Variances and t Values[a]

School	Time	N	Mean	SD	t
A	1	28	3.31	.64	
	2	24	3.65	.51	2.09**
B	1	37	3.39	.49	
	2	39	3.60	.64	1.61
C	1	29	2.90	.58	
	2	20	3.07	.55	1.05
D	1	21	3.26	.65	
	2	21	3.59	.79	1.49
E	1	23	3.99	.29	
	2	18	4.23	.28	2.65**
F	1	55	3.74	.56	
	2	42	3.68	.40	.58
K	1	23	3.72	.44	
	2	22	4.15	.47	3.19**
L	1	28	3.09	.54	
	2	22	3.10	.67	.10
M	1	60	2.85	.52	
	2	53	2.91	.50	.53
N	1	27	3.29	.47	
	2	30	3.20	.53	.67

[a]Connecticut School Effectiveness Questionnaire

Number of Items - 25
Alpha Internal Consistency - .93
Test-Retest - .83

* $p \leq .10$
** $p \leq .05$

TABLE 4

HIGH EXPECTATIONS

Time 1 and 2 School Means, Variances and t Values[a]

School	Time	N	Mean	SD	t
A	1	28	3.35	.44	2.93**
	2	24	3.70	.42	
B	1	37	2.75	.46	1.77
	2	39	2.95	.52	
C	1	29	3.33	.37	.72
	2	20	3.26	.36	
D	1	21	3.12	.46	1.61
	2	21	3.38	.57	
E	1	23	3.15	.39	.80
	2	18	3.24	.34	
F	1	55	3.09	.49	1.31
	2	42	2.97	.44	
K	1	23	3.23	.25	.90
	2	22	3.30	.27	
L	1	28	2.81	.49	.15
	2	22	2.83	.51	
M	1	60	3.06	.38	.24
	2	53	3.04	.37	
N	1	29	3.09	.38	1.69
	2	31	3.24	.31	

[a]Connecticut School Effectiveness Questionnaire

Number of Items - 12
Alpha Internal Consistency - .55
Test-Retest - .69

* $p \leq .10$
** $p \leq .05$

TABLE 5

OPPORTUNITY TO LEARN AND TIME ON TASK

Time 1 and 2 School Means, Variances and t Values[a]

School	Time	N	Mean	SD	t
A	1	28	4.05	.36	
	2	24	3.99	.40	.50
B	1	36	3.38	.37	
	2	38	3.52	.38	1.49
C	1	29	3.65	.28	
	2	20	3.83	.31	2.15**
D	1	21	3.65	.35	
	2	21	3.95	.44	2.46**
E	1	23	3.65	.34	
	2	18	3.79	.46	1.04
F	1	55	3.38	.50	
	2	42	3.37	.38	.11
K	1	23	3.67	.31	
	2	22	3.83	.23	1.95*
L	1	28	3.29	.43	
	2	22	3.29	.54	.04
M	1	60	3.30	.41	
	2	53	3.31	.42	.08
N	1	27	3.33	.40	
	2	31	3.48	.30	1.64

[a]Connecticut School Effectiveness Questionnaire

Number of Items - 12
Alpha Internal Consistency - .66
Test-Retest - .74

* $p \leq .10$
** $p \leq .05$

TABLE 6

MONITORING STUDENT PROGRESS

Time 1 and 2 School Means, Variances and t Values[a]

School	Cycle	N	Mean	SD	t
A	1	28	3.79	.33	4.42**
	2	24	4.21	.35	
B	1	38	3.57	.44	3.14*
	2	37	3.91	.48	
C	1	29	3.84	.39	.96
	2	20	3.95	.39	
D	1	21	3.91	.45	1.63
	2	21	4.16	.53	
E	1	23	3.91	.25	2.70**
	2	18	4.16	.35	
F	1	55	3.73	.54	2.04**
	2	42	3.53	.38	
K	1	23	3.75	.37	1.65
	2	22	3.95	.44	
L	1	28	3.42	.56	1.13
	2	22	3.59	.47	
M	1	60	3.47	.47	.87
	2	53	3.55	.43	
N	1	29	3.57	.38	.89
	2	31	3.66	.40	

[a]Connecticut School Effectiveness Questionnaire

Number of Items - 11
Alpha Internal Consistency - .77
Test-Retest - .67

* $p \leq .10$
** $p \leq .05$

TABLE 7

HOME/SCHOOL RELATIONS

Time 1 and 2 School Means, Variances and t Values[a]

School	Time	N	Mean	SD	t
A	1	28	3.48	.47	
	2	24	3.97	.37	4.11**
B	1	37	2.61	.44	
	2	37	2.85	.51	2.15*
C	1	29	3.36	.37	
	2	20	3.46	.28	1.07
D	1	21	3.31	.56	
	2	21	3.65	.54	2.03*
E	1	23	3.31	.42	
	2	18	3.49	.44	1.38
F	1	55	2.99	.51	
	2	42	2.86	.44	1.27
K	1	23	3.61	.40	
	2	22	3.90	.44	2.28**
L	1	28	2.50	.54	
	2	22	2.84	.61	2.06**
M	1	60	2.79	.52	
	2	53	3.00	.33	2.61**
N	1	28	2.93	.49	
	2	31	2.95	.41	.17

[a]Connecticut School Effectiveness Questionnaire

Number of Items - 15
Alpha Internal Consistency - .88
Test-Retest - .82

* $p < .10$
** $p < .05$

Appendix G

A Description of a Method for Aggregating Achievement Data

Due to the variety of standardized tests used across schools and the variety of grade levels tested within schools, a method for aggregating all the test data across schools was needed. For purposes of evaluation the following index of school effectiveness was created:

Step 1: The frequency and proportion of all low income student scoring below the thirtieth percentile (proficiency standard) were tallied within each school. The frequency and proportion of other students was also tallied for purposes of comparison.

Step 2: The frequency and proportion of all low income students scoring below the fiftieth percentile (grade level) was recorded in each school. These data were also collected for other students.

Step 3: The frequency and proportion of all low income students scoring above the fiftieth percentile (above grade level) was recorded in each school. These data were also collected for other students.

Step 4: The data at each of the three cutoff, (30th percentile, 50th percentile, and 50+ percentile) were then aggregated across all schools. Weighted means were calculated to more accurately reflect school based impact by taking into account (weighting) the schools on the basis of its total number of students in income classification.

Using the above method accomplishes two important functions (1) the data is more manageable thus trends in the data can be more efficiently displayed and (2) it provides a method for combining and displaying data within and across schools.

Appendix H

Table 10

Aggregate Reading Achievement: The Relationship of Time on the Performance of Low Income and Other Students

Reading

Group Comparisons	Total N	Percent Below 30%ile Cycle 1	Cycle 2	Cycle 3	SE	Critical Value
Low Income						
a. Cycle 1/Cycle 2	771	.41	.40		.025	.40
b. Cycle 2/Cycle 3	830		.40	.33	.024	2.87**
c. Cycle 1/Cycle 3	771	.41		.33	.025	3.21**
Other Income						
a. Cycle 1/Cycle 2	581	.16	.14		.020	.98
b. Cycle 2/Cycle 3	650		.14	.16	.020	-.98
c. Cycle 1/Cycle 3	581	.16		.16	.021	.066

Assessing the Discrepancy Between Low Income and Other Students*

Low Income/Other	N	Low Income	Other	SE	CV
a. Cycle 1	771	.41	.16	.025	9.89**
b. Cycle 2	830	.40	.14	.024	10.99**
c. Cycle 3	748	.33	.16	.024	7.11**

Key

Group Comparisons - Test administration over three years: Cycle 1 (SY 1982), Cycle 2 (SY 1983) and Cycle 3 (SY 1984).

Total N - Total number of low and other income children

Income (Low and Other) - Percent of low income and other students scoring below the proficiency standard.

SE - Standard error

*These analyses assesses whether the gap between the performance of low income students is significantly different from all other students below the proficiency standard. No significant difference is a desirable finding.

**Critical value - $p < .01$

Table 11

Aggregate Mathematics Achievement: The Relationship of Time on the Performance of Low Income and Other Students

Mathematics

Group Comparisons	Total N	Percent Below 30%ile Cycle 1	Cycle 2	Cycle 3	SE	Critical Value
Low Income						
a. Cycle 1/Cycle 2	736	.36	.22		.23	6.19*
b. Cycle 2/Cycle 3	865		.22	.24	.023	-.97
c. Cycle 1/Cycle 3	736	.36		.23	.024	5.13**
Other Income						
a. Cycle 1/Cycle 2	571	.17	.16		.021	.46
b. Cycle 2/Cycle 3	650		.16	.14	.019	1.01
c. Cycle 1/Cycle 3	571	.17		.14	.020	1.45

Assessing the Discrepancy Between Low Income and Other Students

Low Income/Other		Low Income	Other		
a. Cycle 1	736	.36	.17	.025	7.62**
b. Cycle 2	864	.22	.16	.020	2.92**
c. Cycle 3	792	.24	.14	.021	4.81**

Key:
Group Comparisons - Test administration over three years: Cycle 1 (SY 1982), Cycle 2 (SY 1983) and Cycle 3 (SY 1984).
Total N - Total number of low and other income children
Income (Low and Other) - Percent of low income and other students scoring below the proficiency standard.
SE - Standard error
*These analyses assesses whether the gap between the performance of low income students is significantly difrerent from all other students below the proficiency standard. No significant difference is a desirable finding.
**Critical value - $p < .01$

Table 12

Evaluating Implementation: The Relationship of Time and the Reading Performance of Low Income and Other Students

Reading

Group Comparisons	Total N	Percent Below 30%ile Cycle 1	Cycle 2	Cycle 3	SE	Critical Value
Moderate Implementation						
Low Income						
a. Cycle 1/Cycle 2	227	.45	.44		.030	.33
b. Cycle 2/Cycle 3	262		.44	.35	.029	3.11**
c. Cycle 1/Cycle 3	227	.45		.35	.030	3.31**
Other Income						
a. Cycle 1/Cycle 2	54	.17	.12		.026	1.92
b. Cycle 2/Cycle 3	50		.12	.15	.024	-1.01
c. Cycle 1/Cycle 3	54	.17		.15	.028	.71
High Implementation						
Low Income						
a. Cycle 1/Cycle 2	37	.30	.38		.063	-1.23
b. Cycle 2/Cycle 3	39		.38		.066	1.34
c. Cycle 1/Cycle 3	37	.30		.29	.061	.18
Other Income						
a. Cycle 1/Cycle 2	24	.13	.11		.031	.62
b. Cycle 2/Cycle 3	27		.11	.14	.034	-.88
c. Cycle 1/Cycle 3	24	.13		.14	.037	-.27

Key

Group Comparisons - Test administration over three years: Cycle 1 (SY 1982), Cycle 2 (SY 1983) and Cycle 3 (SY 1984).

Total N - Total number of low and other income children

Income (Low and Other) - Percent of low income and other students scoring below the proficiency standard.

SE - Standard error

**Critical value - $p < .01$

Table 13

Evaluating Implementation: The Relationship of Time and the Mathematic Performance of Low Income and Other Students

Mathematics

Group Comparisons	Total N	Percent Below 30%ile Cycle 1	Cycle 2	Cycle 3	SE	Critical Value
Moderate Implementation						
Low Income						
a. Cycle 1/Cycle 2	191	.38	.25		.029	4.47**
b. Cycle 2/Cycle 3	130		.25	.22	.026	1.16
c. Cycle 1/Cycle 3	191	.38		.22	.028	5.69**
Other Income						
a. Cycle 1/Cycle 2	64	.22	.18		.032	1.30
b. Cycle 2/Cycle 3	64		.18	.15	.027	1.08
c. Cycle 1/Cycle 3	64	.22		.15	.030	2.34**
High Implementation						
Low Income						
a. Cycle 1/Cycle 2	37	.33	.24		.057	1.60
b. Cycle 2/Cycle 3	33		.24	.17	.052	1.35
c. Cycle 1/Cycle 3	37	.33		.17	.057	2.78**
Other Income						
a. Cycle 1/Cycle 2	36	.14	.11		.029	1.04
b. Cycle 2/Cycle 3	28		.11	.08	.024	1.25
c. Cycle 1/Cycle 3	36	.14		.08	.025	2.38**

Key

Group Comparisons - Test administration over three years: Cycle 1 (SY 1982), Cycle 2 (SY 1983) and Cycle 3 (SY 1984).

Total N - Total number of low and other income children

Income (Low and Other) - Percent of low income and other students scoring below the proficiency standard.

SE - Standard error

**Critical value - $p < .01$

Table 14

Evaluating Leadership: The Relationship of Time and the Reading Performance of Low Income and other Students

Reading

Group Comparisons	Total N	Percent Below 30%ile Cycle 1	Cycle 2	Cycle 3	SE	Critical Value
Moderate Leadership						
Low Income						
a. Cycle 1/Cycle 2	92	.25	.25		.033	0
b. Cycle 2/Cycle 3	83		.25	.23	.033	.60
c. Cycle 1/Cycle 3	92	.25		.23	.032	.62
Other Income						
a. Cycle 1/Cycle 2	57	.20	.15		.033	1.51
b. Cycle 2/Cycle 3	37		.15	.18	.032	-.94
c. Cycle 1/Cycle 3	57	.20		.18	.033	.60
Average Leadership						
Low Income						
a. Cycle 1/Cycle 2	224	.47	.45		.031	.65
b. Cycle 2/Cycle 3	249		.45	.40	.031	2.58**
c. Cycle 1/Cycle 3	224	.47		.37	.032	3.12**
Other Income						
a. Cycle 1/Cycle 2	36	.09	.13		.022	-1.83
b. Cycle 2/Cycle 3	54		.13	.13	.025	-0.002
c. Cycle 1/Cycle 3	36	.09		.13	.023	-1.75

Key

Group Comparisons - Test administration over three years: Cycle 1 (SY 1982), Cycle 2 (SY 1983) and Cycle 3 (SY 1984).

Total N - Total number of low and other income children

Income (Low and Other) - Percent of low income and other students scoring below the proficiency standard.

SE - Standard error

**Critical value - $p < .01$

Table 15

Evaluating Leadership: The Relationship of Time and the Mathematic Performance of Low Income and Other Students

Group Comparisons	Total N	Mathematics Percent Below 30%ile Cycle 1	Cycle 2	Cycle 3	SE	Critical Value
Moderate Leadership						
Low Income						
a. Cycle 1/Cycle 2	79	.28	.23		.035	1.42
b. Cycle 2/Cycle 3	74		.23	.27	.034	-1.19
c. Cycle 1/Cycle 3	79	.28		.27	.036	.28
Other Income						
a. Cycle 1/Cycle 2	67	.02	.02		.033	0
b. Cycle 2/Cycle 3	52		.02	.16	.032	1.28
c. Cycle 1/Cycle 3	67	.02		.16	.030	1.36
High Leadership						
Low Income						
a. Cycle 1/Cycle 2	186	.39	.22		.029	5.86**
b. Cycle 2/Cycle 3	116		.22	.22	.027	0
c. Cycle 1/Cycle 3	186	.39		.22	.030	5.60**
Other Income						
a. Cycle 1/Cycle 2	30	.090	.12		.023	-1.33
b. Cycle 2/Cycle 3	52		.12	.12	.024	0
c. Cycle 1/Cycle 3	30	.090		.02	.024	-1.26

Key

Group Comparisons - Test administration over three years: Cycle 1 (SY 1982), Cycle 2 (SY 1983) and Cycle 3 (SY 1984).

Total N - Total number of low and other income children

Income (Low and Other) - Percent of low income and other students scoring below the proficiency standard.

SE - Standard error

**Critical value - $p < .01$

Table 16

The Significance of the Discrepancy Between Low Income and Other Students in Reading and Mathematics for Two Levels of Implementation

Reading*

	N	Income Low	Other	Gap	SE	CV
Moderate Implementation						
Cycle 1	227	.45	.17	.28	.034	8.26**
2	262	.44	.12	.32	.029	10.86**
3	189	.35	.15	.20	.030	6.67**
High Implementation						
Cycle 1	37	.30	.13	.17	.046	3.69**
2	39	.38	.11	.27	.046	5.83**
3	29	.29	.14	.15	.052	2.90**

Mathematics*

	N	Income Low	Other	Gap	SE	CV
Moderate Implementation						
Cycle 1	191	.38	.22	.16	.034	4.62**
2	130	.25	.18	.07	.029	2.46**
3	123	.22	.15	.07	.026	2.65**
High Implementation						
Cycle 1	37	.33	.14	.19	.045	4.22**
2	33	.24	.11	.13	.038	3.38**
3	19	.17	.08	.09	.033	2.73**

Key

Group Comparisons - Test administration over three years: Cycle 1 (SY 1982), Cycle 2 (SY 1983) and Cycle 3 (SY 1984).

Total N - Total number of low and other income children

Income (Low and Other) - Percent of low income and other students scoring below the proficiency standard.

Gap - The difference between low and other income students scoring below the proficiency standard.

SE - Standard error

*These analyses assesses whether the gap between the performance of low income students is significantly different from all other students below the proficiency standard. No significant difference is a desirable finding.

**Critical value - $p < .01$

Table 17

Significance of the Discrepancy Between Low Income and Other Students in Reading and Mathematics for Two Levels of Leadership

Reading*

	N	Income Low	Other	Gap	SE	CV
Average Leadership						
Cycle 1	92	.25	.20	.05	.033	1.51
2	83	.25	.15	.10	.034	2.94**
3	78	.23	.18	.05	.033	1.53
High Leadership						
Cycle 1	224	.47	.09	.38	.031	12.28**
2	249	.43	.13	.32	.030	10.63**
3	169	.37	.13	.24	.032	7.54**

Mathematics*

	N	Income Low	Other	Gap	SE	CV
Average Leadership						
Cycle 1	79	.28	.20	.08	.034	2.33**
2	74	.23	.20	.03	.034	.868**
3	91	.27	.16	.11	.032	3.49**
High Leadership						
Cycle 1	186	.39	.09	.30	.032	9.50**
2	116	.22	.12	.10	.025	4.06**
3	99	.22	.12	.10	.028	3.62**

Key

Group Comparisons - Test administration over three years: Cycle 1 (SY 1982), Cycle 2 (SY 1983) and Cycle 3 (SY 1984).
Total N - Total number of low and other income children
Income (Low and Other) - Percent of low income and other students scoring below the proficiency standard.
Gap - The difference between low and other income students scoring below the proficiency standard.
SE - Standard error

*These analyses assesses whether the gap between the performance of low income students is significantly different from all other students below the proficiency standard. No significant difference is a desirable finding.
**Critical value - $p < .01$

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